CE 1023

RTM-Diagnosis

Software Manual

Version 1.7

ONKO·CET

High Technology Medical Devices

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SAFETY SIGNS

- Refer to user manual/booklet

- General prohibitory sign

- General warning sign

Read this Software manual and the Operating manual to the RTM-01-RES device before using the Microwave Radiometer, Breast and Multiorgan Scan System "RTM-01-RES".

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Preparation for work with the RTM-Diagnosis software

Installation of RTM-Diagnosis software

1. Put RTM-Diagnosis disk into the computer.
2. Start the “autorun.exe” file, if it doesn’t work automatically.
3. Choose section “**Installation of program”** in the menu and then **“The latest version of RTM-Diagnosis”.**
4. Carry out the installation according to the instructions on the display
5. Choose section **All programs** in menu **Startup** when installation is finished and then - **RTM-Diagnosis.**

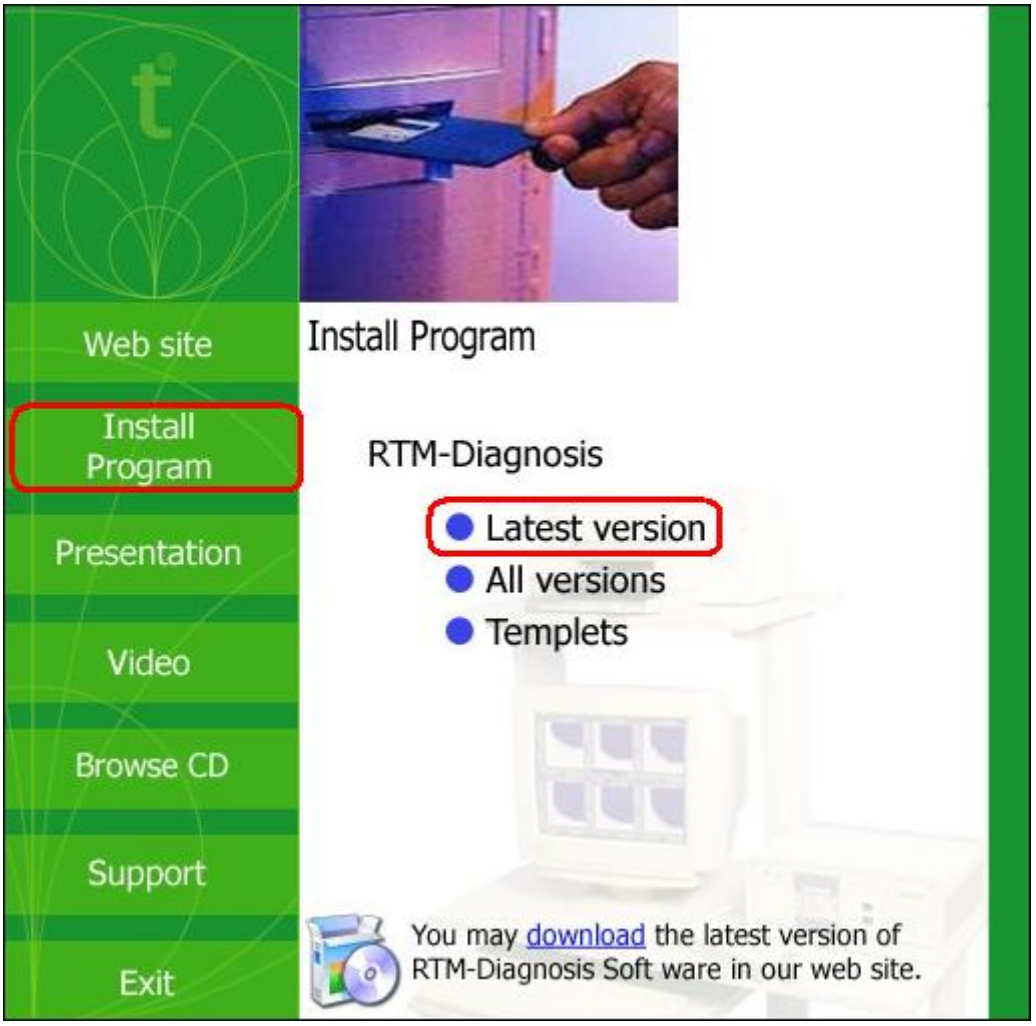


Figure 1. Installation of RTM-Diagnosis software

First startup of RTM-Diagnosis software

The window of program registration appears after first program startup.

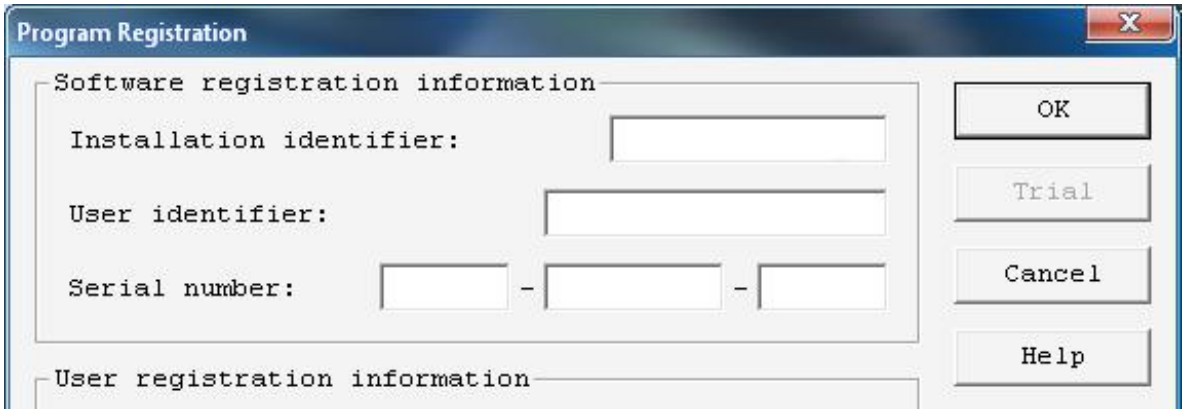


Figure 2. The window of program registration

1. Registration program data are printed on the back side of RTM-Diagnosis disk and passport of RTM-01-RES device. Disk and passport are a part of the delivered set.

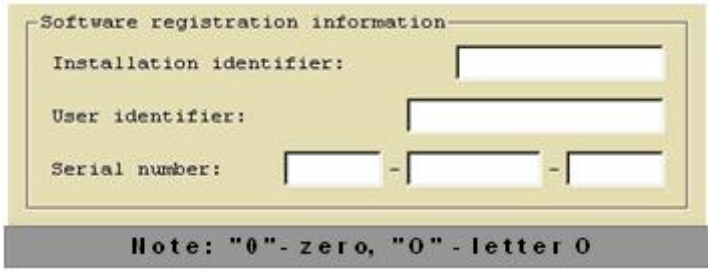


Figure 3. Label with registration data on the back side of RTM-Diagnosis disk and passport of RTM-01-RES device

2. Fill in the registration data and press **OK**
3. It's necessary to register a **new user,** when basic program window appears.

For this you should:

a) Choose <**Manager**> in the field <**User>,** Figure 4.

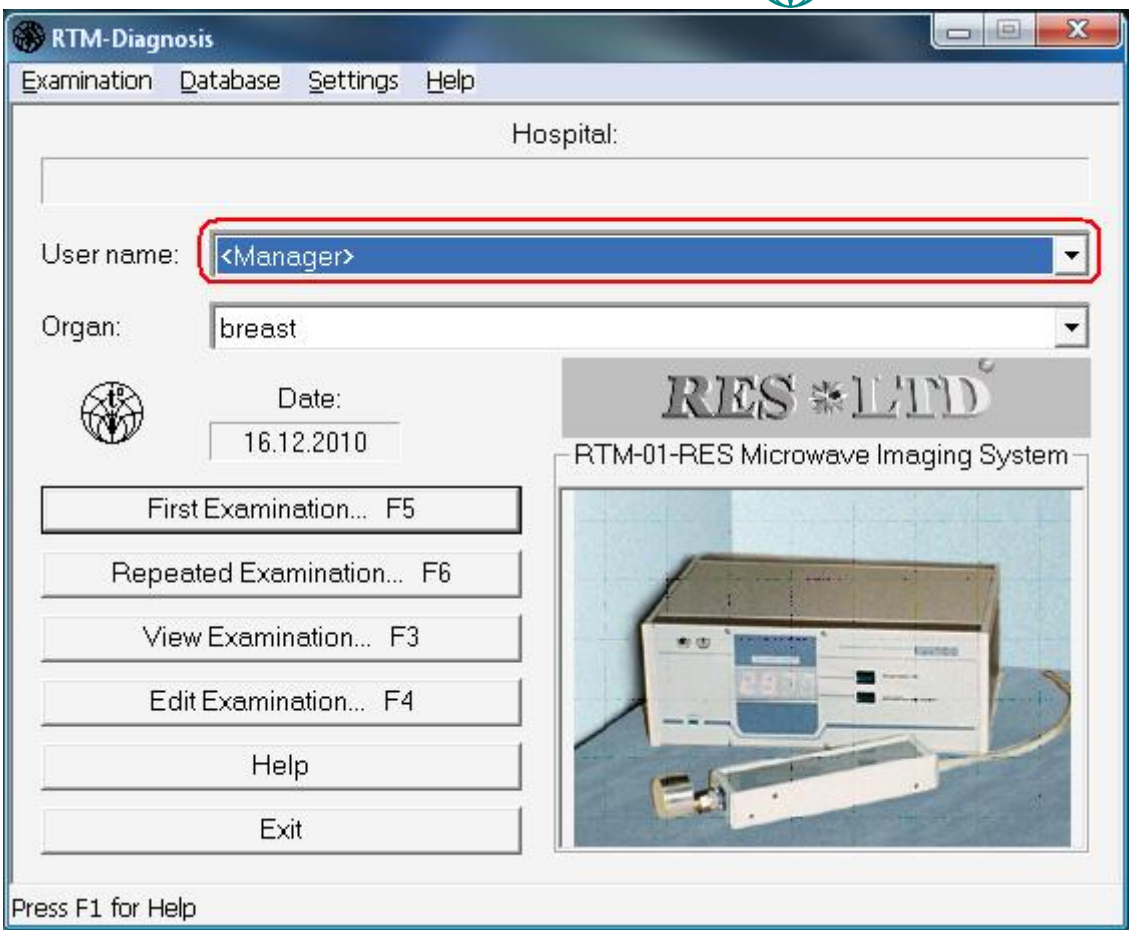


Figure 4. Setup of <Manager> user

b) Choose **Adjustment** in the menu, then **Users** and press **Register user.**

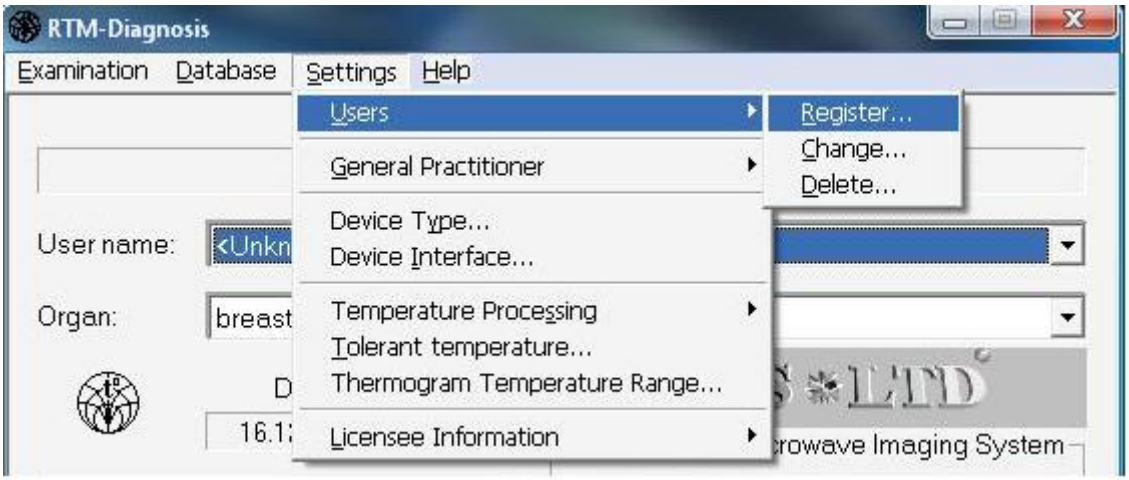


Figure 5. User registration

c) Then put user data in and tick off the user authorizations. We recommend ticking off eight upper rows for ordinary work (
Figure *6*). Then press OK and the user will be created.

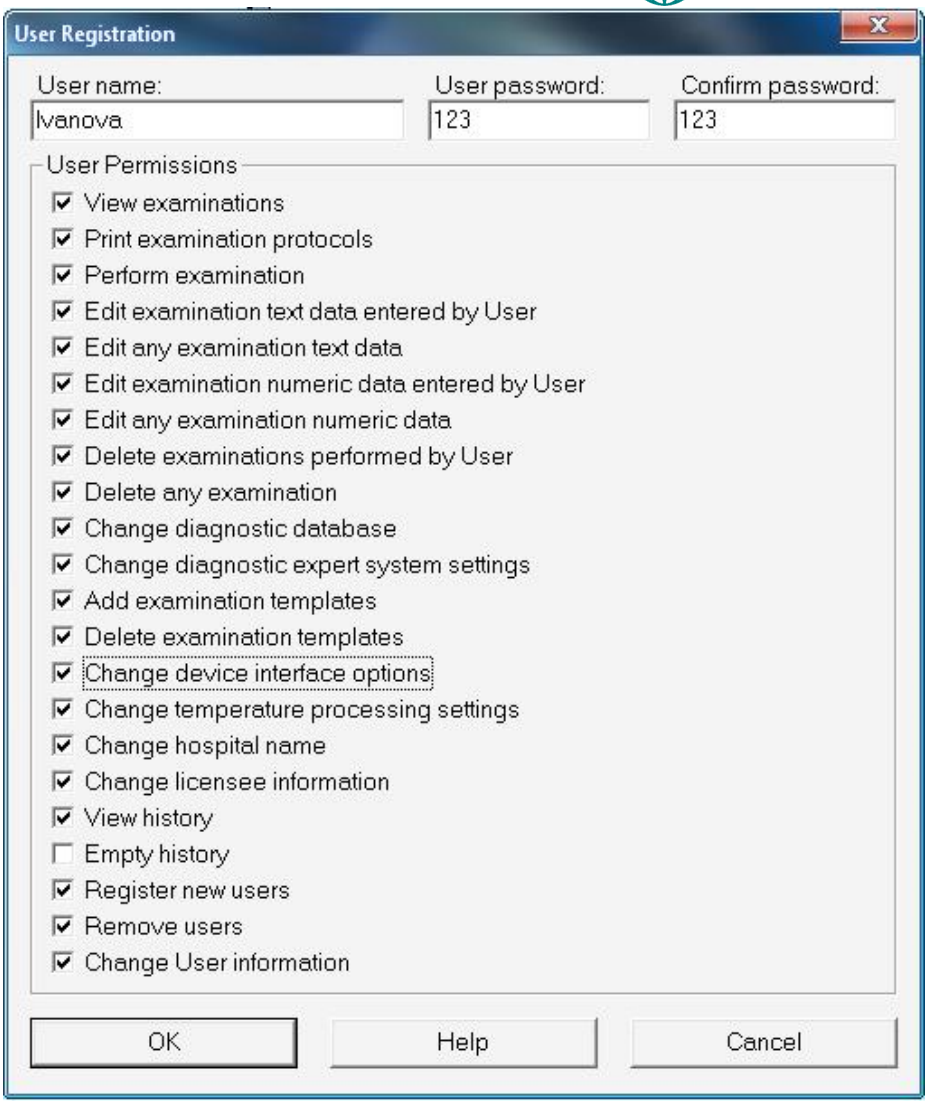


Figure 6. User registration

4. For doctor registration (main doctor) choose **Adjustment** in the menu, then **Doctors** and press **Register doctor.** Fill in the doctor data and press **OK**

Figure 7. Doctor registration

Carrying out of examination

User selection

It's necessary to select a user before carrying out an examination. Select a user name by clicking in the end of line in **User** section.

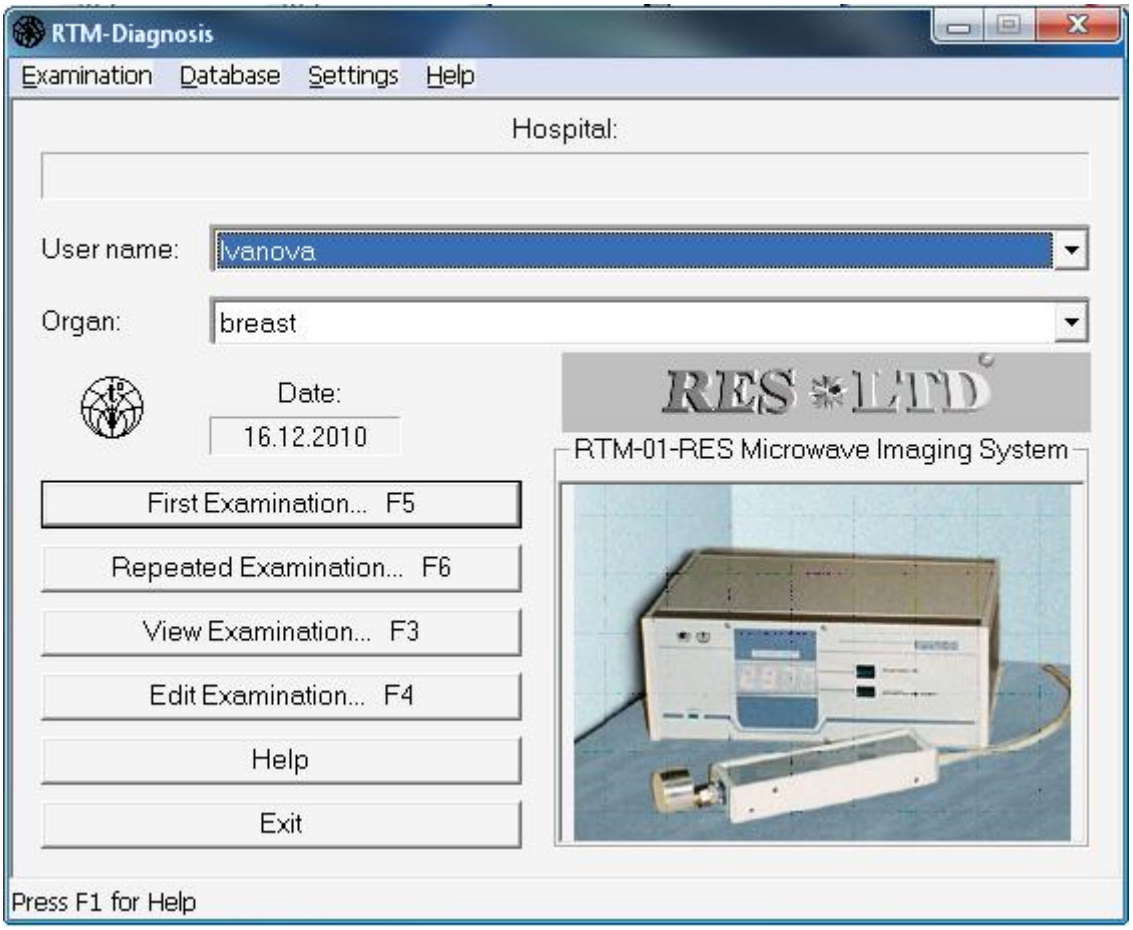


Figure 8. Main window, User selection.

Selection of examined body organ

It's necessary to select a pattern of examined body organ before carrying out an examination. Select the examined organ by clicking on the end of line in the **Examined organ** section

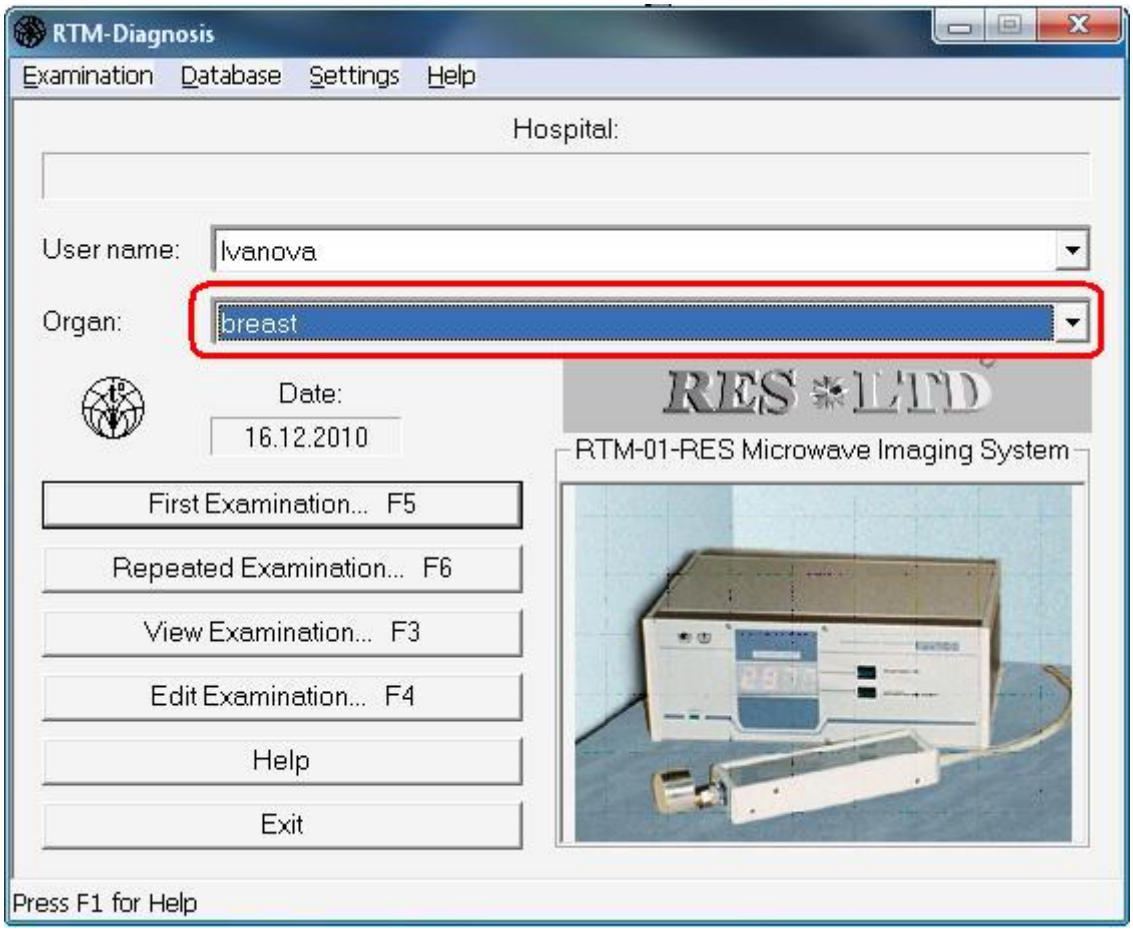


Figure 9. Main window. Selection of examined body organ.

Beginning of initial examination

Press **First Examination** in main window or **F5** (on keyboard) to begin an examination**.**

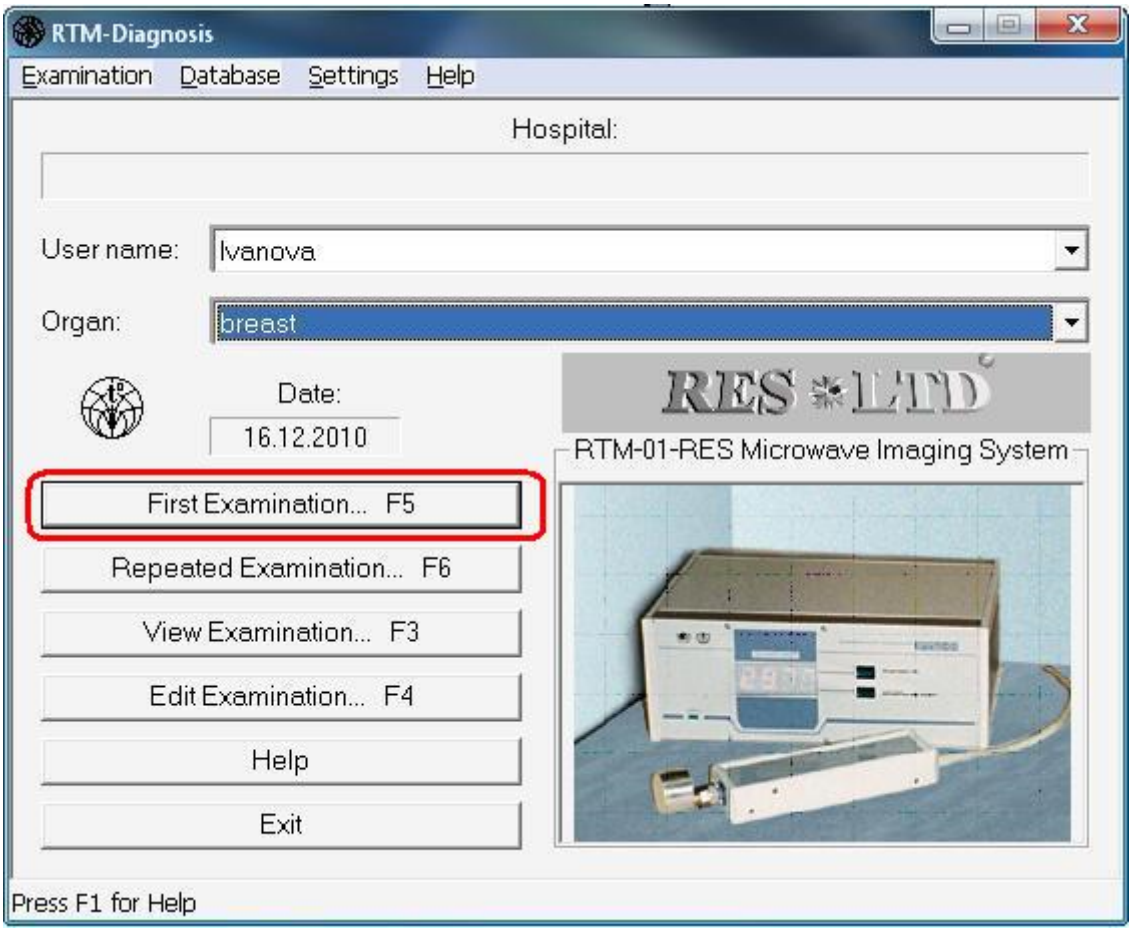


Figure 10. Main window. Beginning of First Examination.

Patient data input

You should fill in the patient form - **Common data** - Figure 11. It's very important to write the Name, Surname, Middle-name, Date of birth. After that, press **Next,** the next window **Special Information** appears (Figure 12), fill them in and press **Next** again**.**

Figure 11. Common data window. Patient data input.

Figure 12. Special data window. Patient data input.

Measurement of internal and skin temperatures

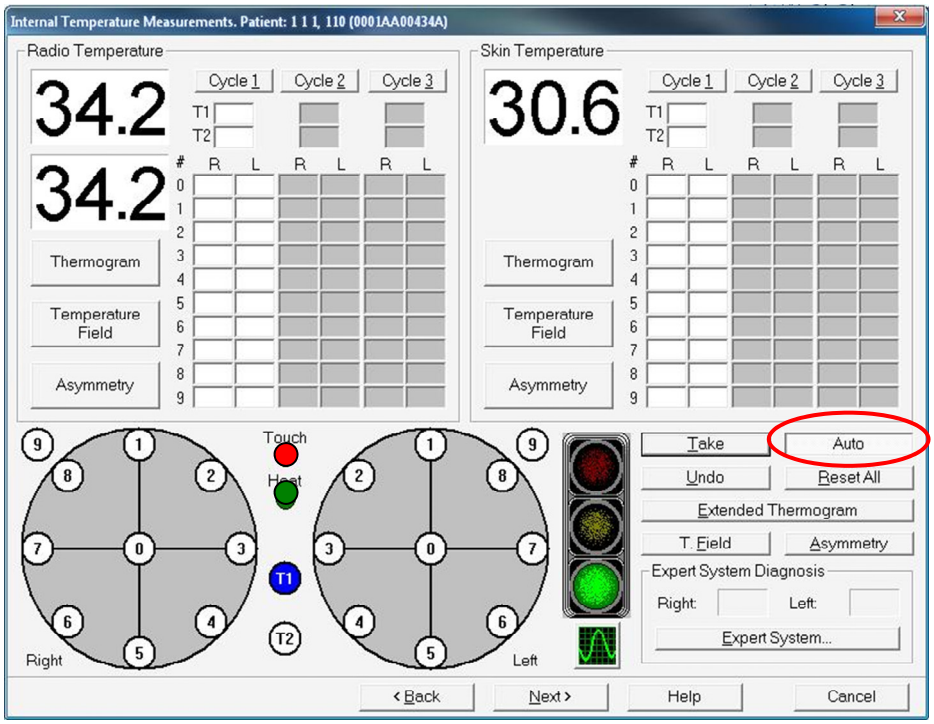


Figure 13. Window of measurement processs. Auto-input button.

It's possible to carry out measurements by combined sensor both in manual and automatic modes. In manual mode the operator should watch indicators in the program to fix measurements and order to put measurements result in the computer in corresponding time. In automatic mode the operator should watch only the location of the point for measurement on the pattern scheme and location of internal temperature sensor on the examined area. Switching of measurement modes is provided by auto-input button. The Figure 13 shows button in the switched off condition.

Heating indicator

When you switch on the device (RTM-01-RES) the heating indicator, located in the measurement process window, gives a signal that heating of antenna-applicator is turned on automatically (Figure 14). If indicator turns color from red on green, it indicates that the internal temperature sensor is ready and it's possible to initiate measurements.

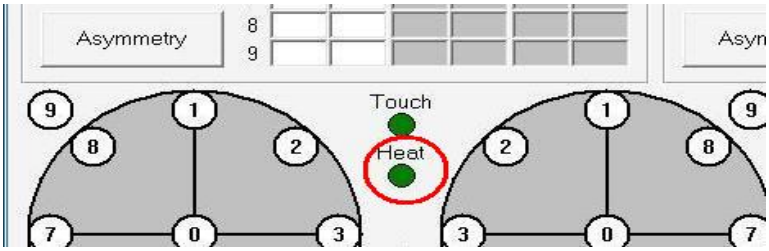


Figure 14. Heating indicator.

Indicator of contact

It is necessary for the antenna-applicator to be closely adjacent to examined area of the skin to carry out the measurements by internal temperature sensor. For this purpose sensor of contact is placed into the antenna. If you set up the device correctly, the indicator of contact turns color from red to green (Figure 15).

Point measurement in manual mode

Auto-input **button** should be in the switched off condition for point measurement in the manual mode. The measured points sequence in a window "RTM-DIAGNOSTICS" is defined by the program.
For temperature measurement it is necessary to place the internal temperature sensor on the given point. When **«Touch»** indicator has changed color from red to green, wait for the green signal on the traffic lights picture and press the **«ENTER»** button on the internal temperature sensor or the **Measure** button in the main window of the program (Figure 15).

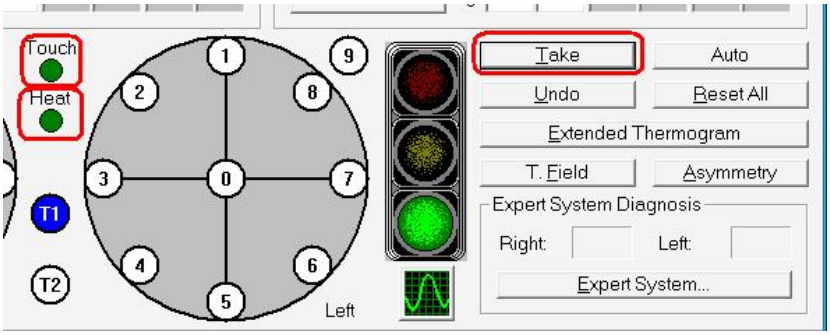


Figure15. «Touch», «Heating» indicators and «Measure» button.

At this moment the cursor passes from one table cell to the next cell, (Figure 16) simultaneously, the following measured point on the scheme of breast examination is shown painted in dark blue color.

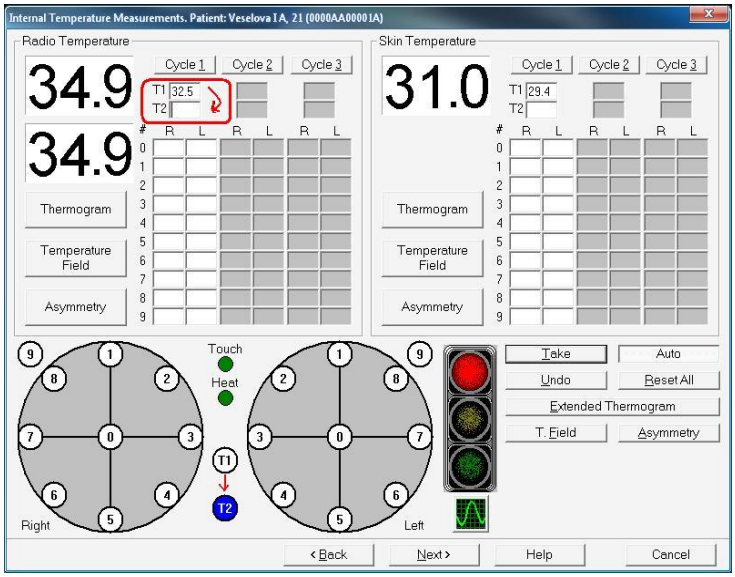


Figure 16. The measurement points sequence. Transition from T1 to T2 points.

Measurement of basic points

Measurement of basic point's R0-R9 (right breast) and L0-L9 (left breast) is carried out after auxiliary points measurement (Figure 17). The measurement is also pointed out on the examination scheme. The following measured point is showed in dark blue color.

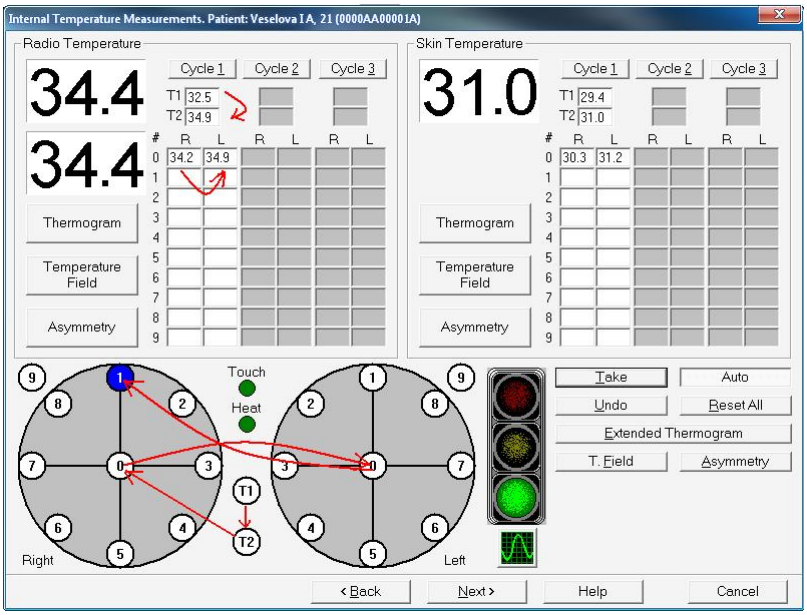


Figure 17. The measurement sequence of basic points.

Control measurement of T1, T2 and R0, L0 points.

It's necessary to repeat a second series of measurement of auxiliary points T1 and T2, and points R0 L0 after the first series of measurements (Fig. 18c).

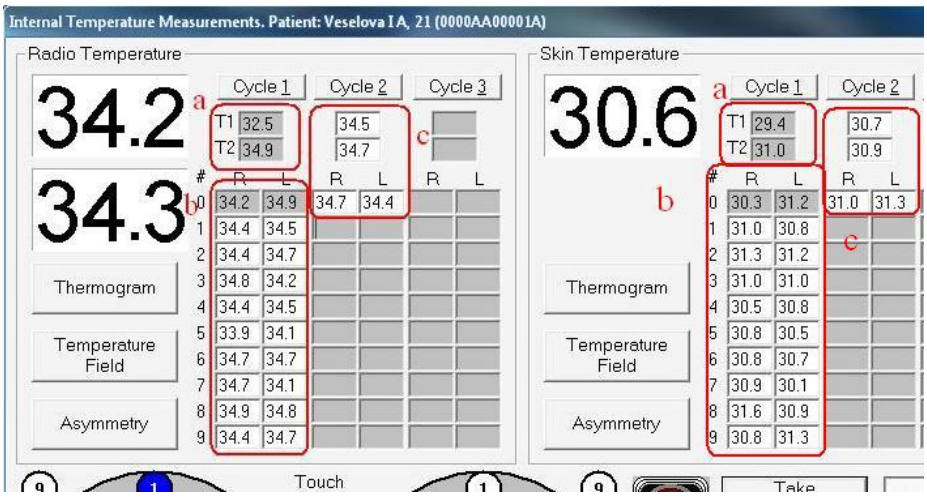


Figure 18 a) Auxiliary points T1, T2 b) Basic points c) Repeated measurement of points T1, T2 and basic points - R0, L0.

Carrying out of several measurement series.

It's possible to carry out several measurements series for more exact results of examination. After first series of control measurement (see Control measurement of Points T1, T2 and R0, L0), a second series of measurements automatically begins. Third, final series is carried out after that.

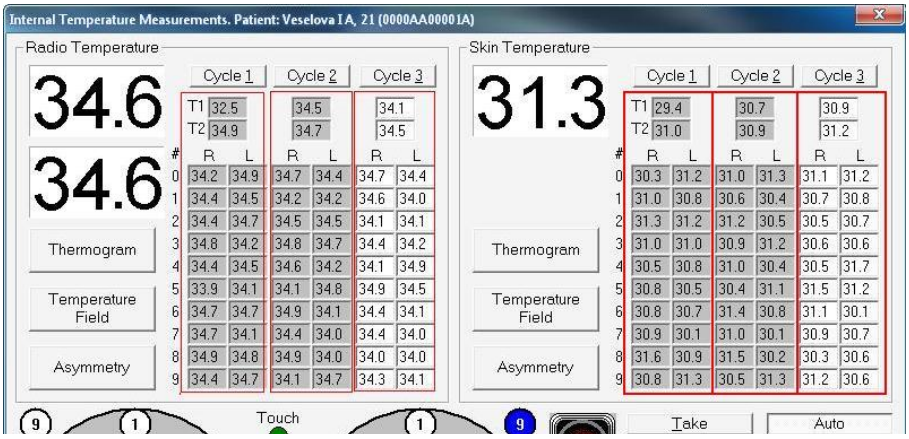


Figure 19. Carrying out of several measurement series.

Selection of one series of data

It's necessary to make series active by pressing the corresponding button over a column with the data to select the data of one series. In this moment all data of this series becomes active.

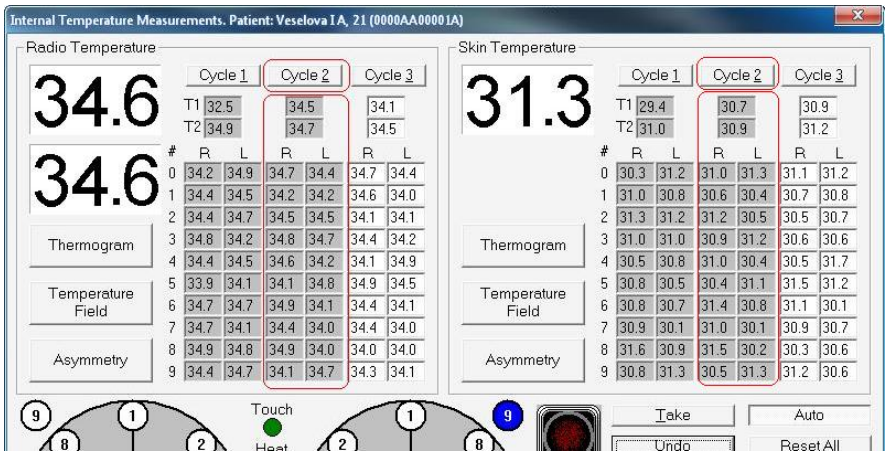


Figure 20. Selection of all data from second measurement series.

Point measurement in automatic mode.

You should press **Auto** input button to measure points in automatic mode.

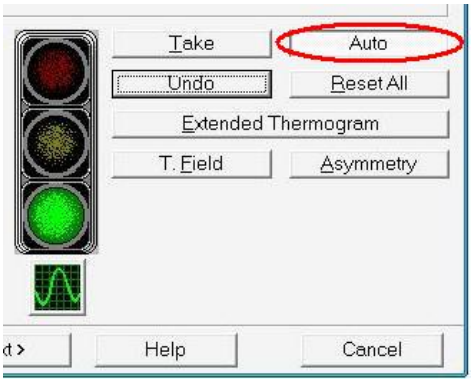


Figure 21. Auto input button.

Don't press the button on the internal temperature sensor as the measured temperature values will be entered in the table automatically. When you place sensor on the first measured point, wait for the green signal on the traffic lights picture; the measurement outcomes will be automatically entered in the table.

Thus, measurement procedure includes following stages:

- Placing the sensor on the examined point
- Waiting until the next point on the scheme will change into dark blue color
- Moving the sensor on the corresponding point - at the same time the contact indicator should change the color from green to red

Thermogram

When you carried out all the measurements and selected the data, it is possible to analyze the results. For this press the **Thermogram** button for internal and skin temperature in the main program window. Figure 22.

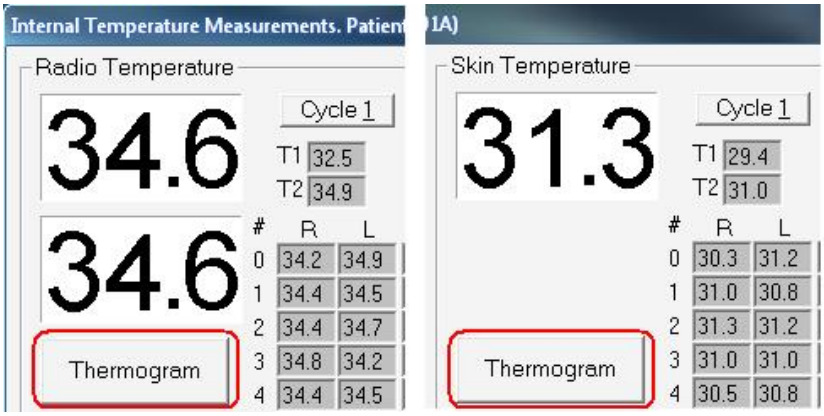


Figure 22. Thermogram opening

The measured temperature is indicated on the appeared diagram. Figure 23 clearly shows all temperature drops in the same points and in a breast as a whole.

The continuous line displays average temperature for healthy women at this age. Figure 23

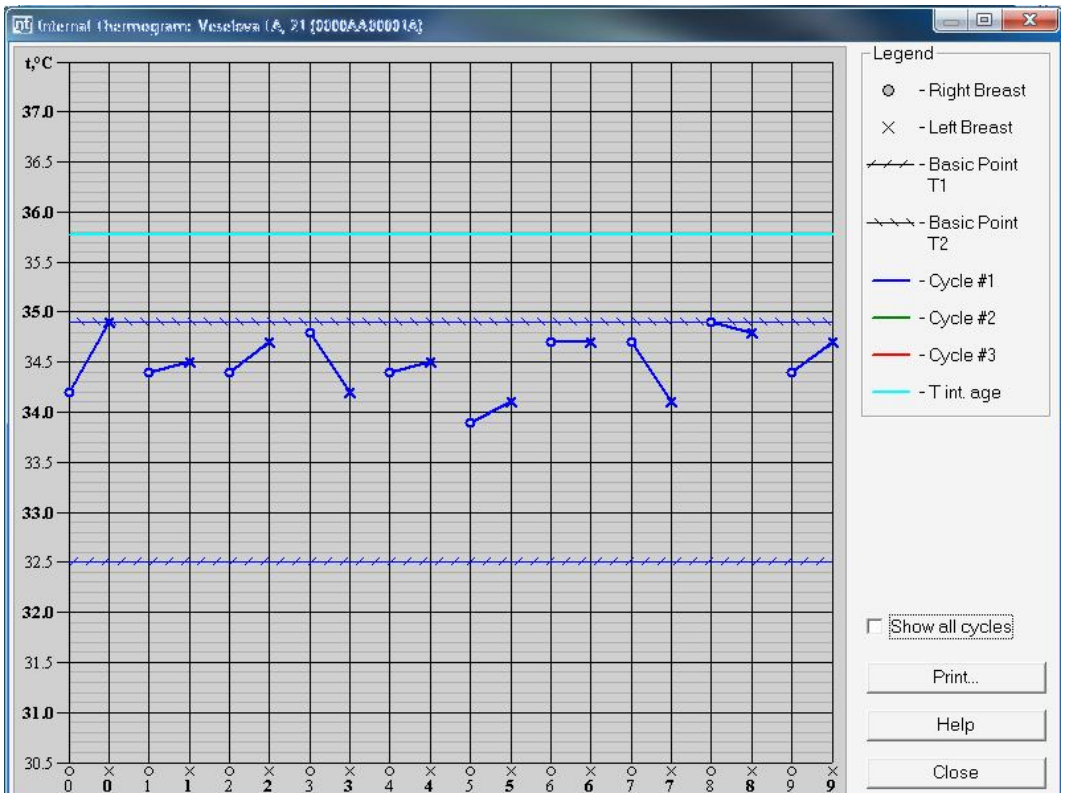


Figure 23. Internal temperature thermogram

Only active temperature values which are shown in the window on white background are saved in the database after examination. This data is used at construction of temperature fields and expert system.

Switching between the active fields is made by mouse click. By default, the last measured values are active.

Window of temperature fields.

Temperature Field shows position of temperature anomalies in each breast.
Cold areas of breast are colored in dark blue, hot areas – in red color.

To open window of temperatures field it is necessary to press **Temperature Field** in the main program window, opening accordingly both the internal and skin temperature fields. Figure 24.

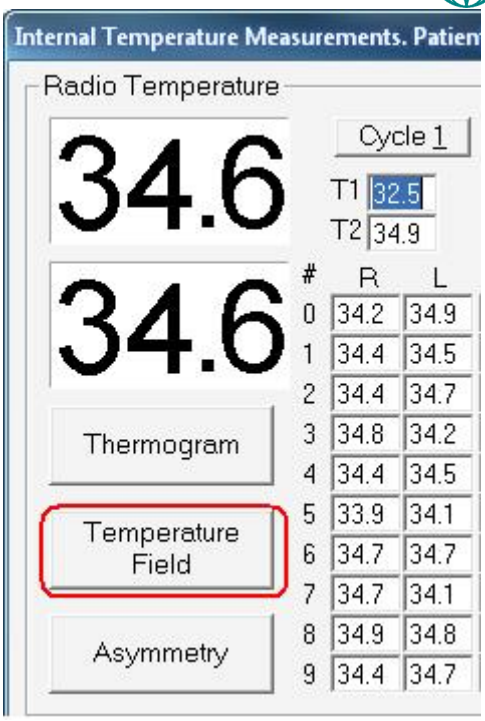


Figure 24. Opening of Temperature Field

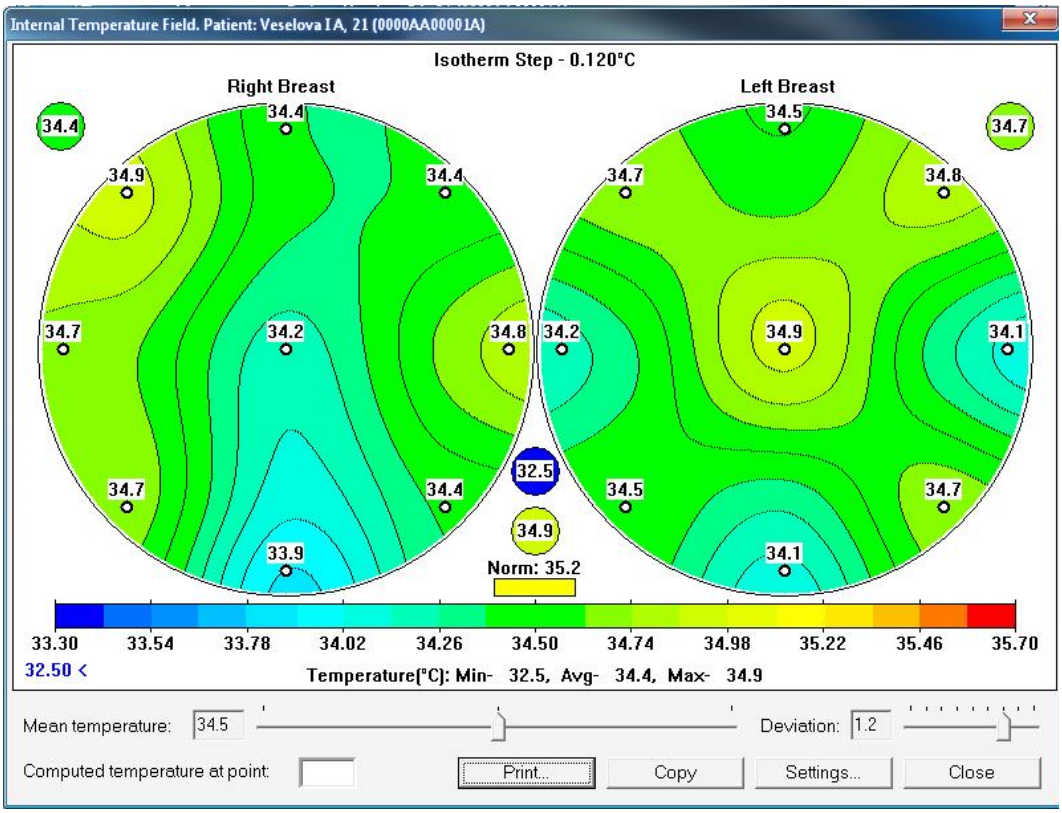
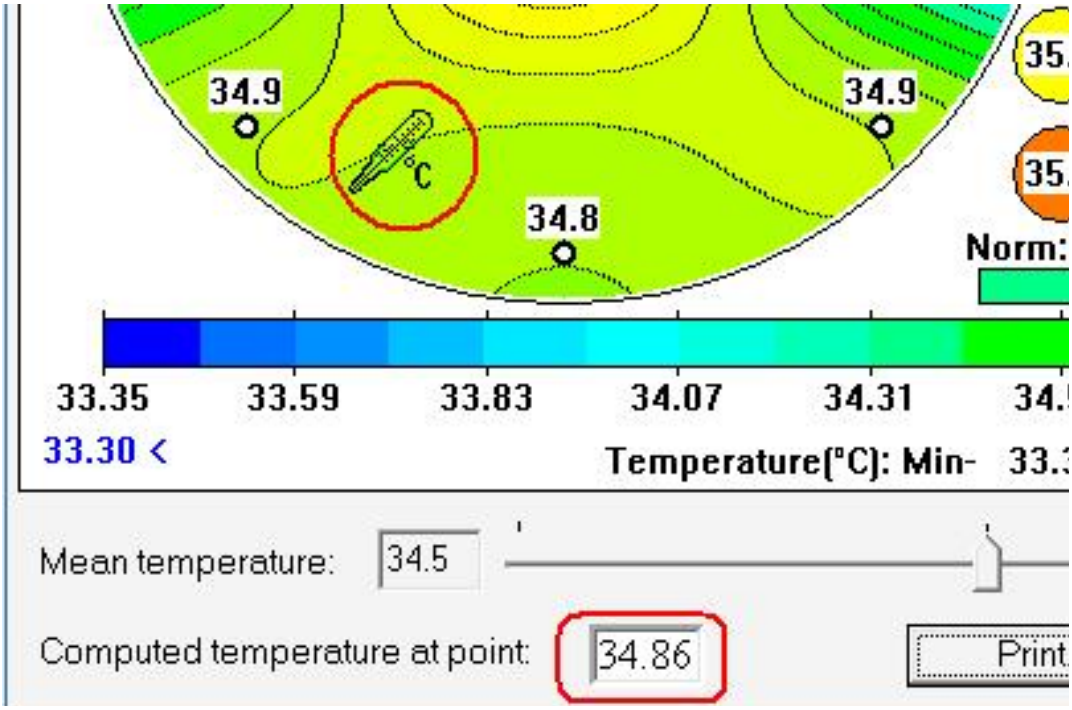


Figure 25. Field window of internal temperatures

Temperature definition on the field.

Temperature values are marked by figures in measured points on the field. In other points the approximation program counts intermediate temperature values. It's possible to read these values, having brought the mouse cursor to any point. Thus it turns to a thermometer and at the bottom of screen it is possible to read temperature value in this point.



Parameters of temperature field

If you want to change parameters of temperature field press the **Settings** button.

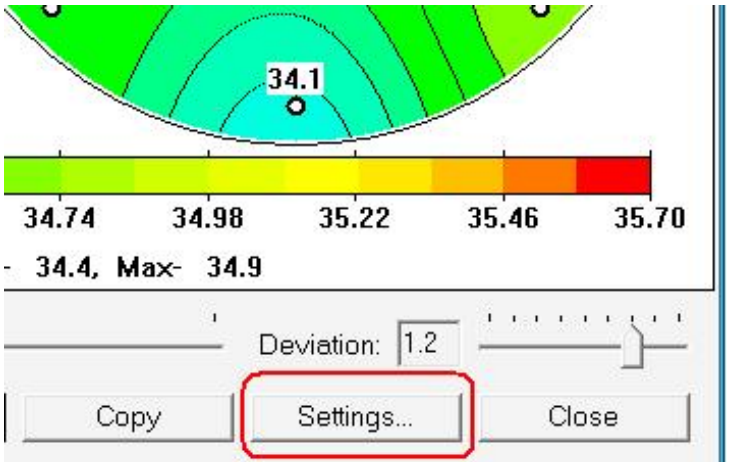


Figure 27. Parameters button

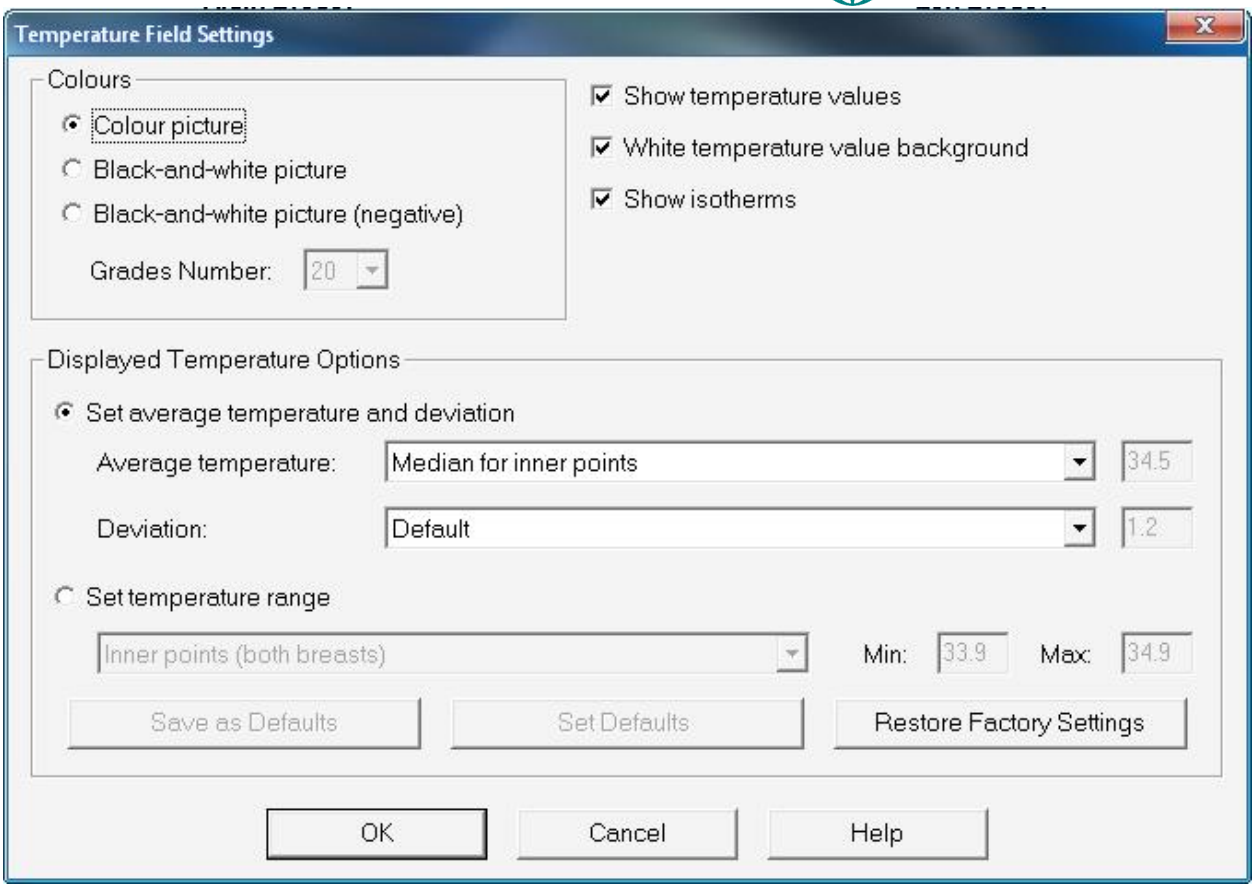


Figure 28. Window of parameters tuning of temperature visualization.

Black-and-white field picture.

When you print on the black-and-white printer dark blue and red colors become invisible but it's possible to receive the black-and-white image of temperature field. For this set black-and-white image and then: hot areas of breast are colored in light color, cold areas– in dark color. If you choose black-and-white negative image – hot areas will correspond to dark tone, and cold to light.

Image tuning of temperature value

- Show temperature values or don't show,
- White temperature value background or not,
- Show isotherms or not.

Construction method of temperature fields

It is possible to set a construction method of temperature fields. As a rule, we use the average temperature with range of temperature deviations. Figure 28.
It is possible to vary the range of temperature deviation and set it 1.5ºC or 0.8ºC instead of 1.2ºC. If the patient has a large temperature differential, which exceed 1.2 degrees given by program, the inscription "Maximum (or minimum) temperature above (or below) range borders" starts to blink under the temperature field. At the same time temperature field is saturated, and some areas are painted in one color. In this case, you can change the display parameters and set a higher value of temperature range to look at a temperature relief on these areas.

If the temperature relief is not clearly visible and you want to make it more contrasting, it is necessary to reduce the temperatures range, and set it to 0.8ºC instead of 1.2º.

Note: **«Point» instead of «comma » is a divisor of the whole and fractional values in the program.**

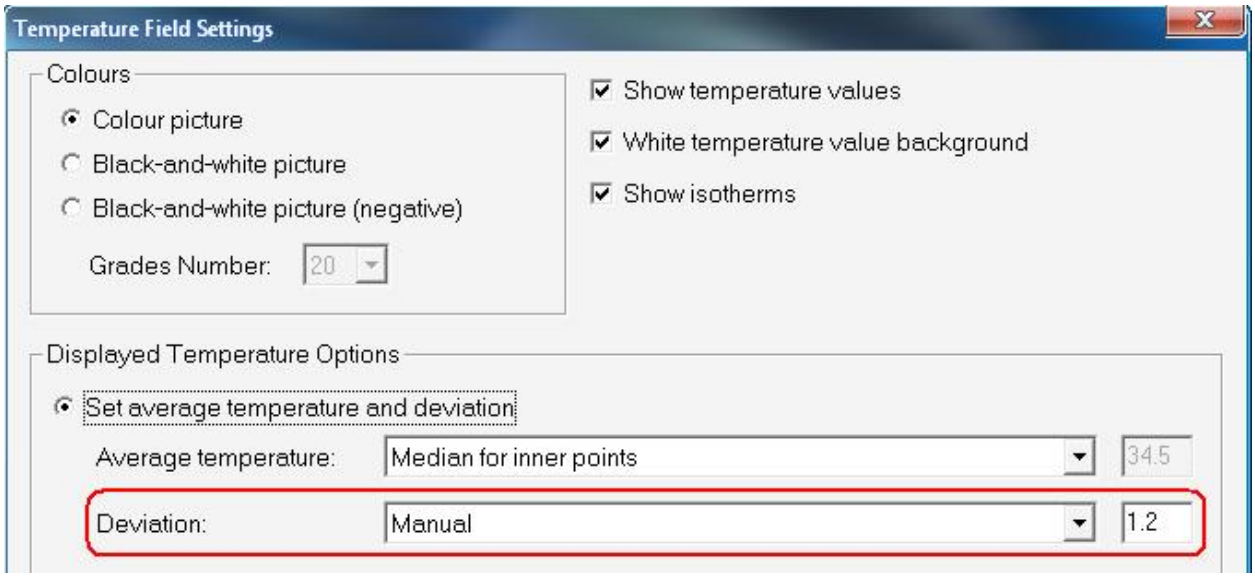


Figure 29. Determination of deviation range

The button **Use by default** allows to remember construction options of temperature field, and to use them for all patients. If you made changes to parameters, and it is necessary to restore the old (kept) values, it is enough to press the button **Return to saved**. The button **Reset** allows restoring the manufacturing options of temperature fields' display.

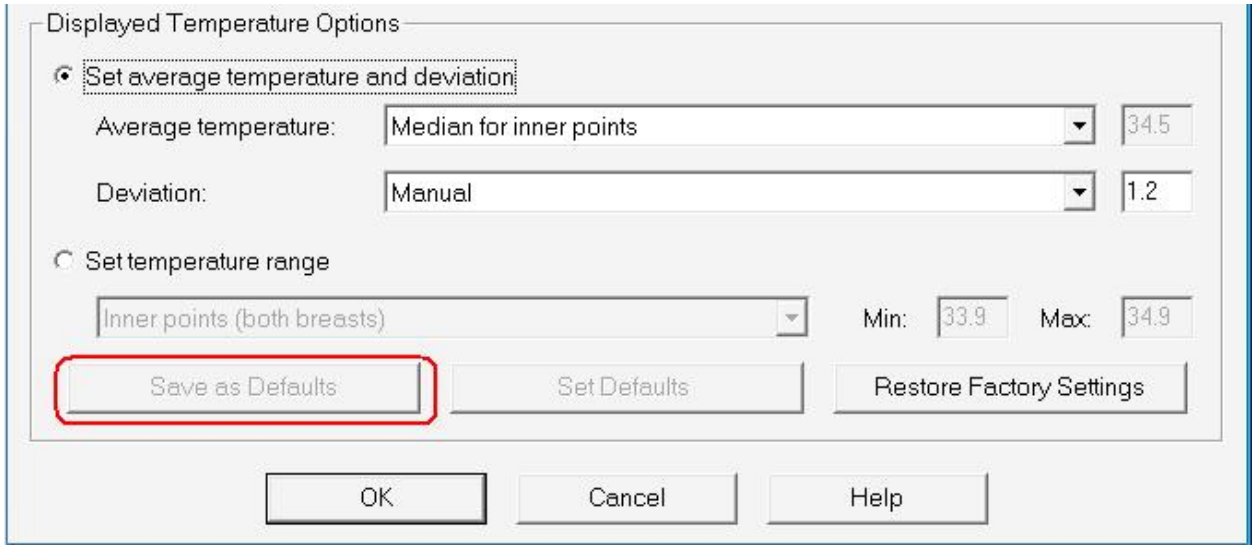


Figure 30. Value setting by default

Printing of the temperature fields

You can print the temperature fields clicking on the **Print** button, selecting a printer and pressing **OK**.

Copying of temperatures field to the clipboard

If you want to use temperature fields in other appendices, for example, in "MS Word" copy it to the clipboard. For this purpose it is necessary to press the **Copy** button at the bottom of the temperature field window.

Diagnostics Window

Doctor conclusions about the patient health state includes or not temperature abnormalities using thermogram, temperatures field and built-in expert system which estimates not qualitative, but quantitative changes which occur on the thermogram and on the temperatures field.

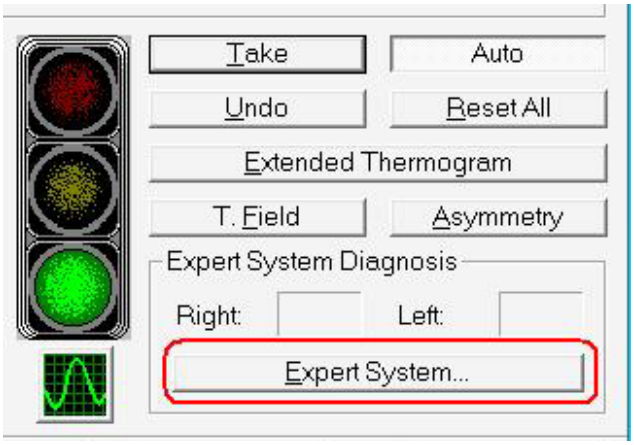


Figure 31. Diagnostics Program

Press button **Diagnostics** to receive outcomes of expert system.

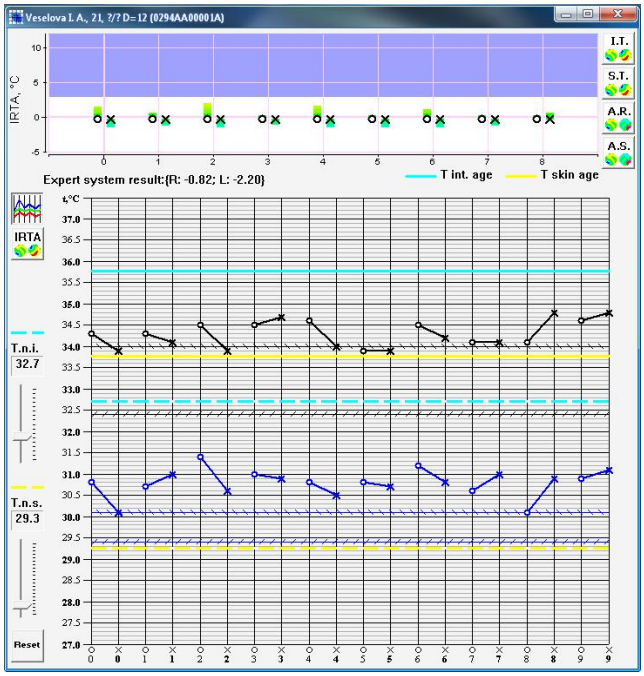


Figure 32. Window of Diagnostics Program

The diagnostic system calculates the **Generalized indicator of thermal activity** (GITA) separately for the right and left breast. This indicator is in the **Outcome of the expert system.**

There is possibility to look throw fields for internal and skin temperature, difference of temperatures in this window having pressed necessary button in the top part of window.

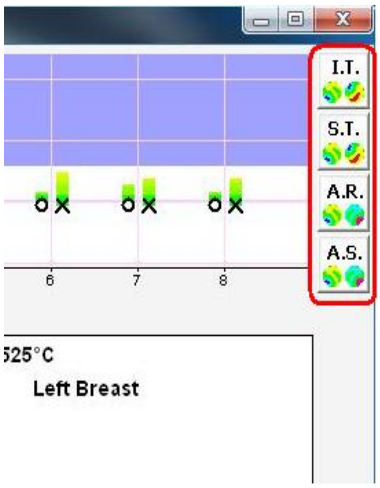


Figure 33. Window of Diagnostics Program, construction process of temperatures field

Press the button **ESR** to view temperature fields received by expert system

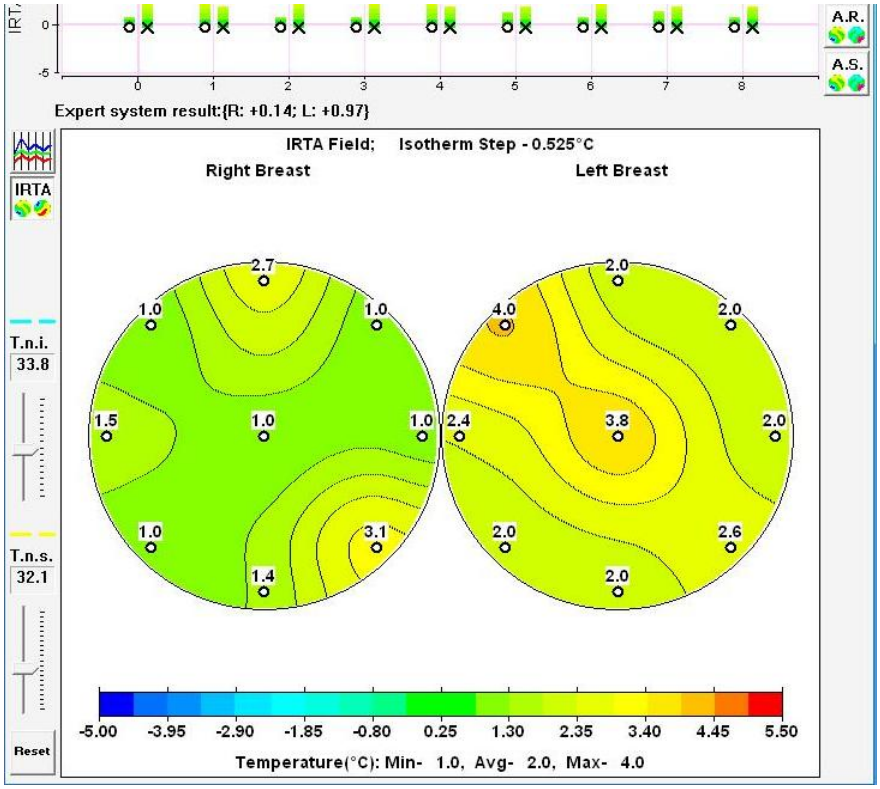


Figure 34.Window of Diagnostics Program, button ERS.

You will know more about **Diagnostics** mode after the practical training. If you want to leave the "Diagnostics" mode press the dagger. After viewing of **Diagnostics** results it's possible to begin measurement of skin temperature by clicking on the button **Next**.

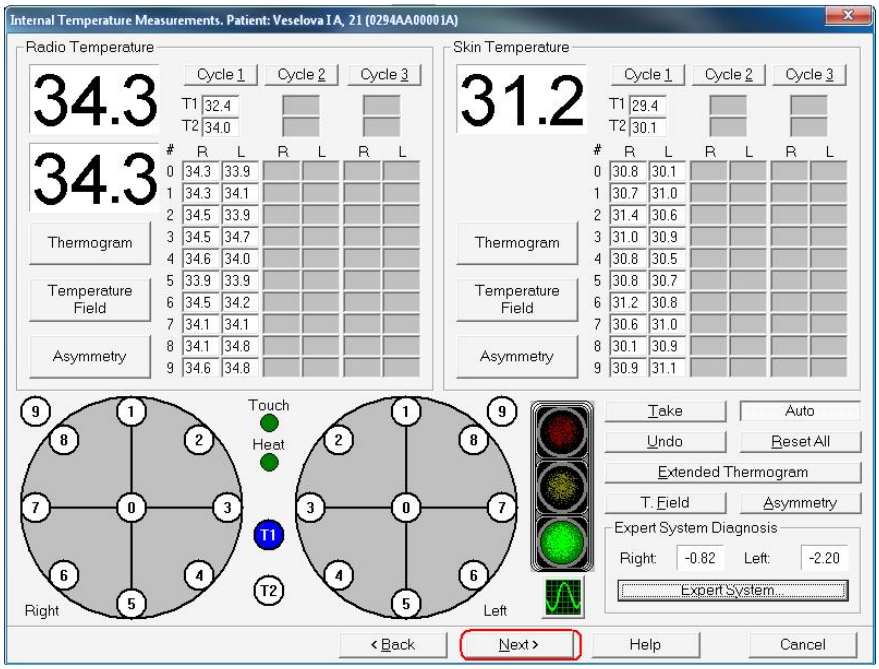


Figure 35. Transition to the window of skin temperature measurement

Measurement of the skin temperature

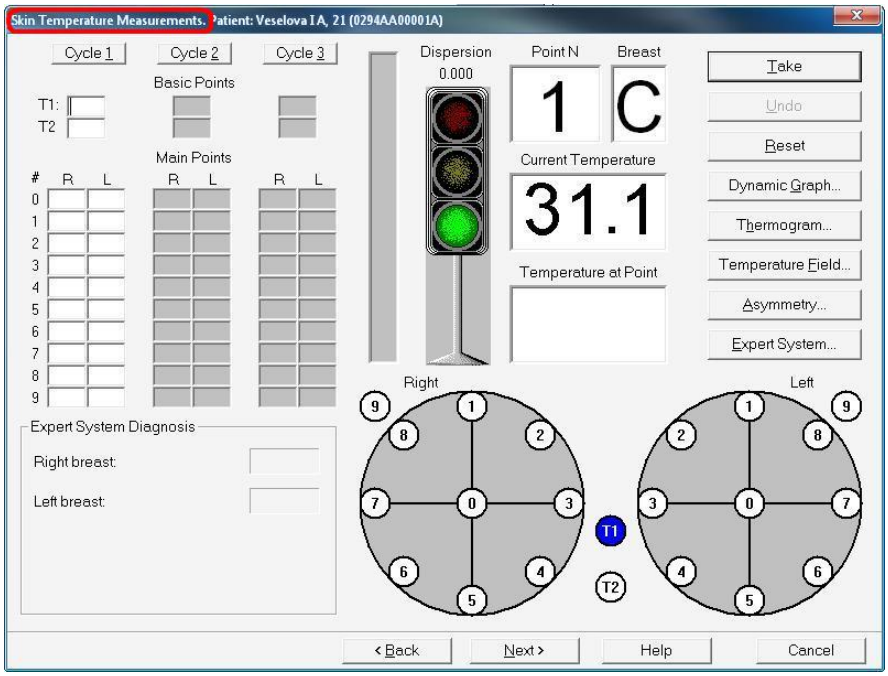


Figure 36 Window of skin temperature measurement

The window for carrying out of temperature measurements by skin sensor is almost the same as the window of internal temperature sensor, but doesn't include the field of averaged temperature. When you carried out complete measurements cycle, similarly as with **internal temperature sensor** (see, Measurement of points), begin to analyze the thermogram. (Press button "Thermogram").

If you want to see not only the outcomes of skin sensor but also of the internal temperature sensor, press the **Show internal temperature** button, then print thermogram, as well as any other pictures. In the same way it's possible to create the field of skin temperature. After that, press the **Next** button.

Then the window - **Report of examination results** is opened.

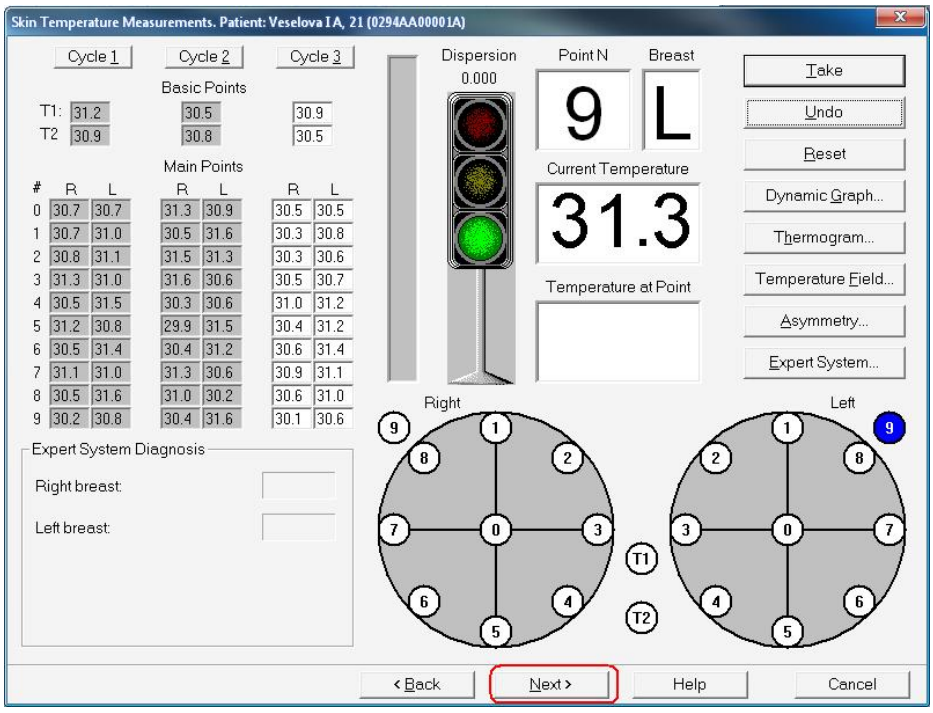


Figure 37. Transition to a window - report of examination results

Report of examination results

Examinations are finished and we go on to the next window - **Report**.

Doctor can bring RTM-Diagnosis results in this window. Outcomes of expert system are placed in the top part of a window. The average part of a window is for expert report of examination results.

For your comfort, several prepared reports are placed below. It is possible to choose a prepared part/parts (or phrase) of the report from the drop-down list and bring it into the report, by clicking the **Use template** button. You can also type the report using keyboard.

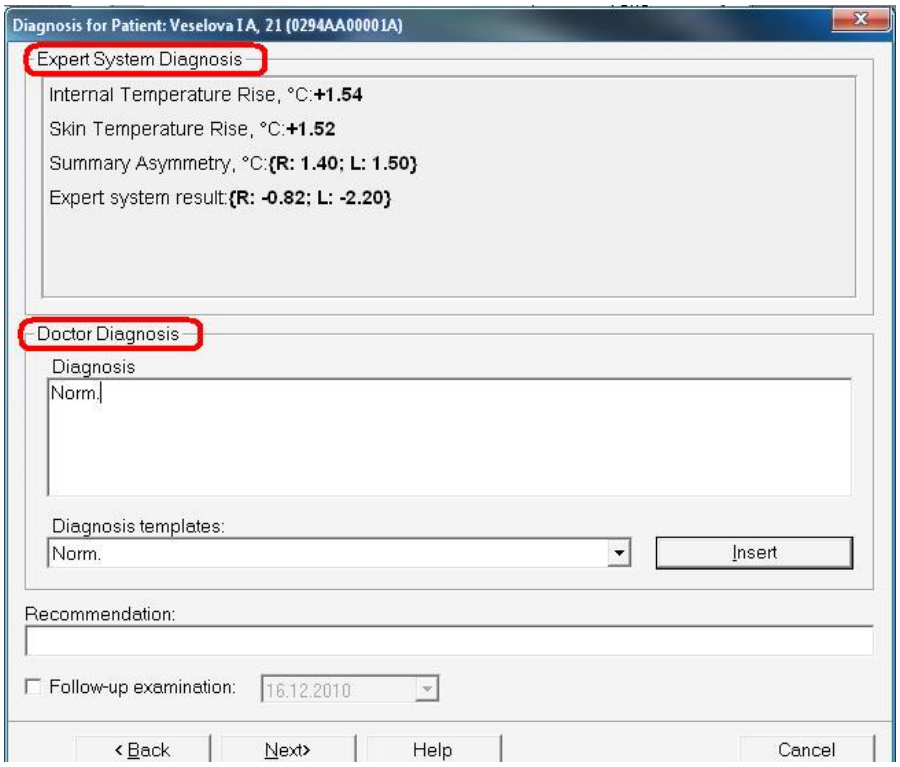


Figure 38. Window - report making of examination results

Window - report making of examination results

You may write recommendations for further treatment and set the date for control examination in this window. Figure 37.

For activation of this it's necessary to tick off the window **Control examination.** Date of present examination is pointed in drop-down menu of calendar and it's also possible to choose date of next examination.

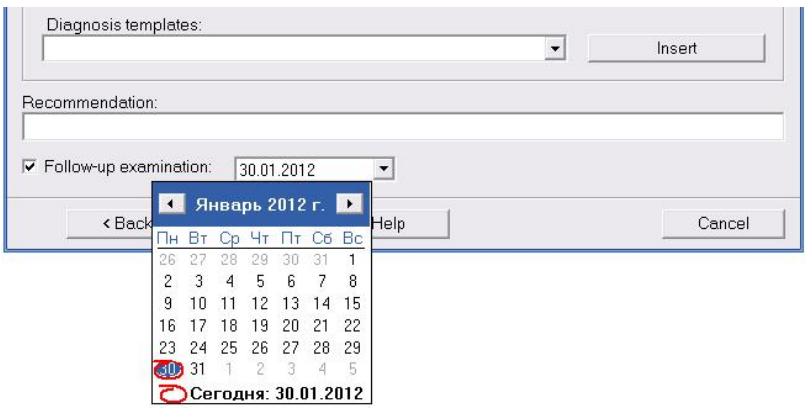


Figure 39. Window - report making of examination results. Additional functions.

After the report text is prepared, press the button **Further** and go on to the last window which finishes the RTM-Diagnosis.

Printing and saving of examination results

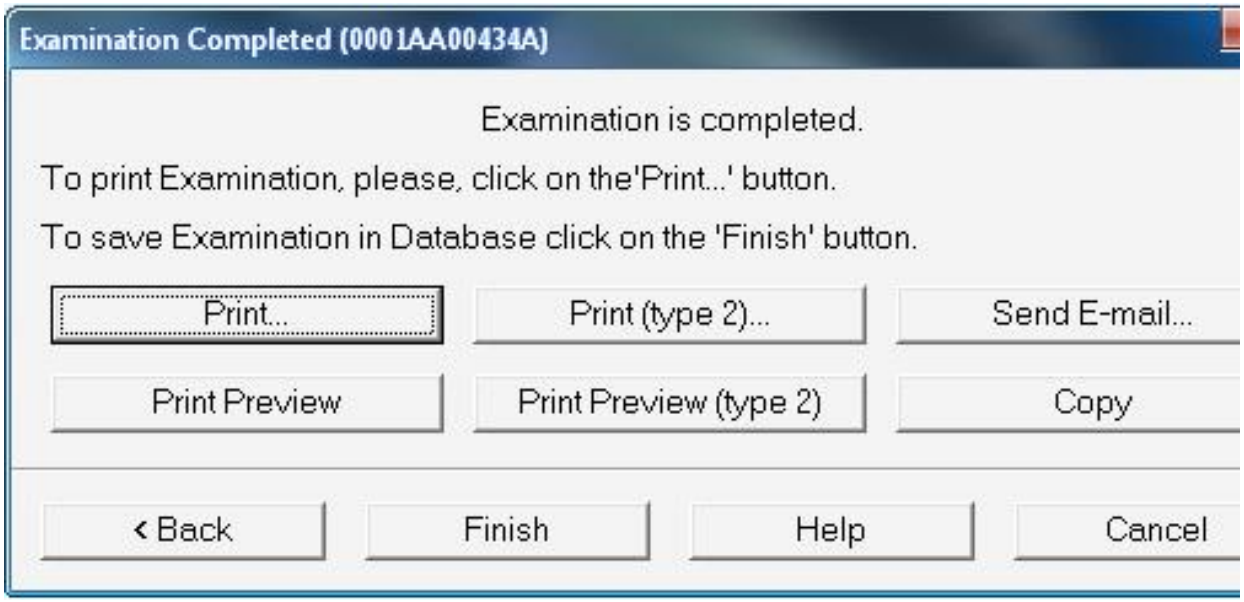


Figure 40. Window of examination completion

It's possible to print the examination report, by clicking on the **Print** button previously to look through it using the **Copy** button. Result of the examination is presented in the two protocols in this window.

The ordinary report (Figure 41.)

Includes the information about the patient, result of the expert system, RTM report and combined thermogram of the internal and skin temperature received by TS1 sensor.

The report - form 2 (Figure 42.)

Includes the information about the patient, result of expert system, temperature fields of internal and skin temperatures, combined thermogram of the internal and skin temperature, received by TS1 sensor, RTM report, examination date and signature place of expert who carried out the examination.
If necessary, you can return back and add the missed sections.
Examination results will be saved in a database only after pressing the **Ready** button in the last window.

If during the examination process you press the **Cancel** button or the button for window closing, examination results can be lost. The program therefore requests confirmation of this action. If you press **Yes** the examination data will be lost, to prevent it, press **Not**, or **Cancel**. Press the **Ready** button to save the data and program gives the message that the examination data have been successfully saved in the database.

Examination Protocol №0104AA00078A

Organ: breast **Sensor:** noise-immune
Hospital:
Examiner: **Examination Date:** . .2005
Name: Veselova I. A **Birth Date:** . .1950 (55)
Patient Number: **General Practitioner:**
Home Phone: **Business Phone:**
C.: **Diam.:** 24 **Cycle:** menopause **Day:** **Complaints:**L
Medical History:

Ultrasound:
Mammography:

Biopsy:
Histology:
Diagnosis: Mastopathy

RTM-Dignosis: Th4 Dext.

Summary Asymm., °C:{R: 2.50; L: 0.60}
Expert system result:{R: -0.77; L: -6.01}
Examination Scheme:

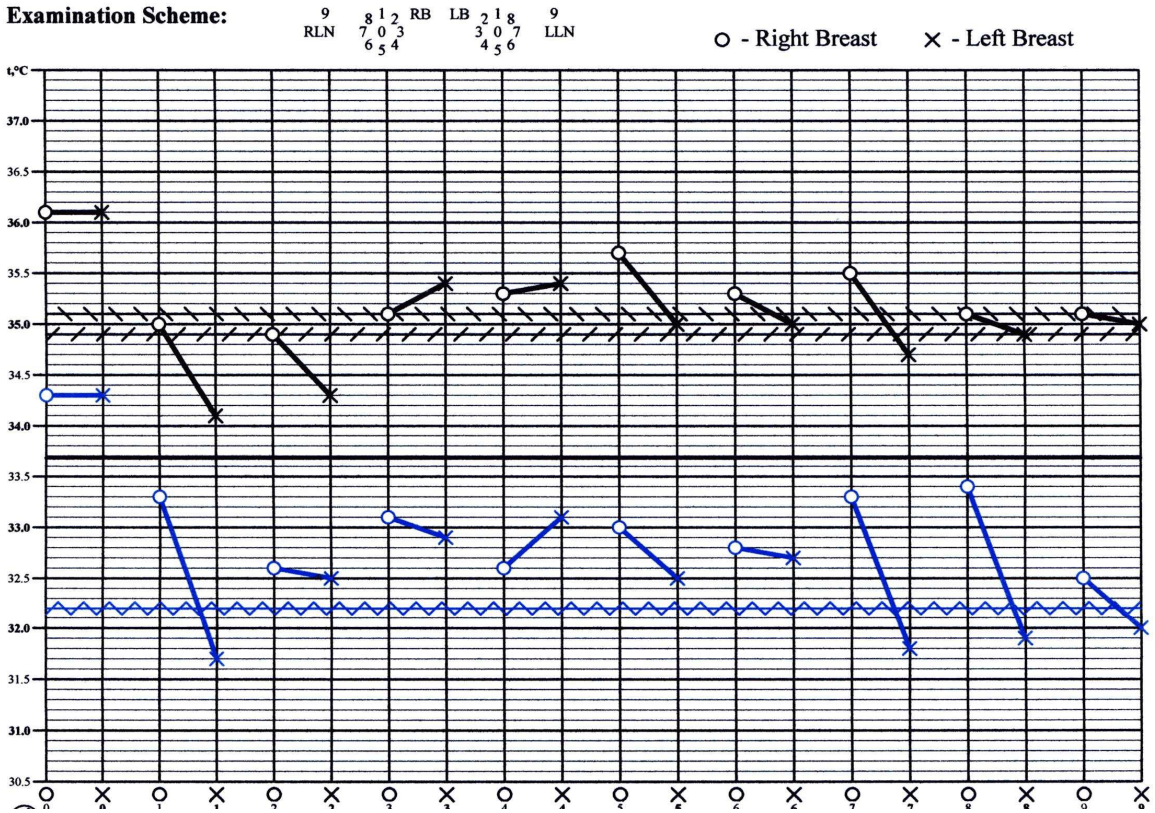


Figure 41. Ordinary protocol

Examination Protocol №0104AA00078A

Organ: breast
Sensor: noise-immune
Hospital:
Air temperature (°C):24
Name: Veselova I. A
Birth Date: . .1950 (55)
Patient Number:
General Practitioner:
C.: **Diam.:** 24 **Cycle:** menopause **Day:** **Complaints:**L
Medical History:

Physical: Mastopathy

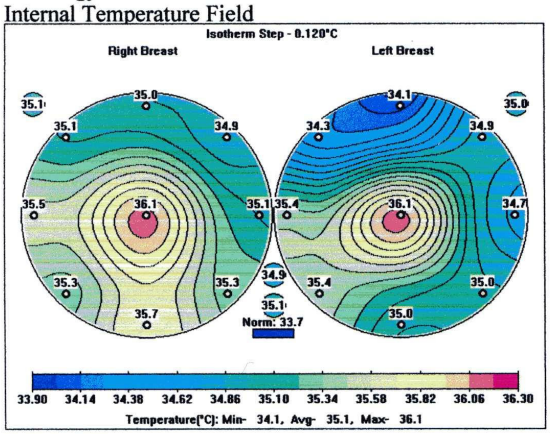
Mammography: _

Ultrasound: _

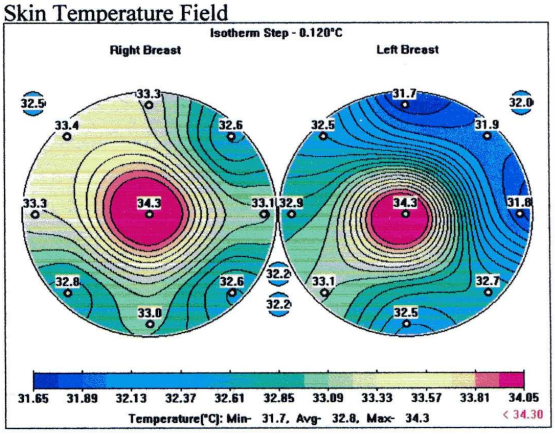
Biopsy: _

Histology:

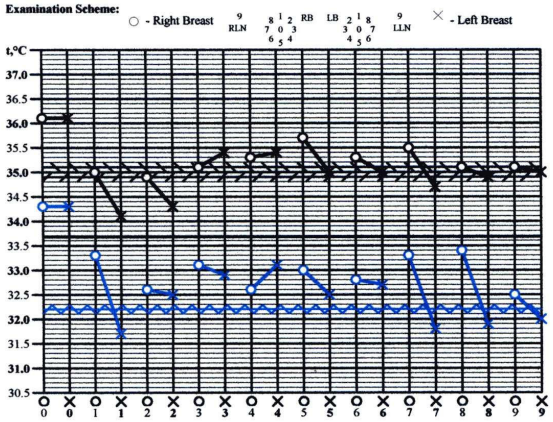
Internal Temperature Field



Skin Temperature Field



Examination Scheme:



Summary Asymmetry, °C:{R: 2.50; L: 0.60}
Expert system result:{R: -0.77; L: -6.01}

RTM-Dignosis: Th4 Dext.

Examination was carried out by:
Examination Date: . .2005

RTM-01-RES (version 1.79) RES, Ltd. Russia, Moscow, t./f.: +7(495) 261-3147, E-mail: res@resltd.ru, http://www.resltd.ru dec 16 2010

Figure 42. Protocol (Form 2)

Record search

Record search window is opened when calling functions of scan, editing and delete (see Functions of scan, editing and delete).

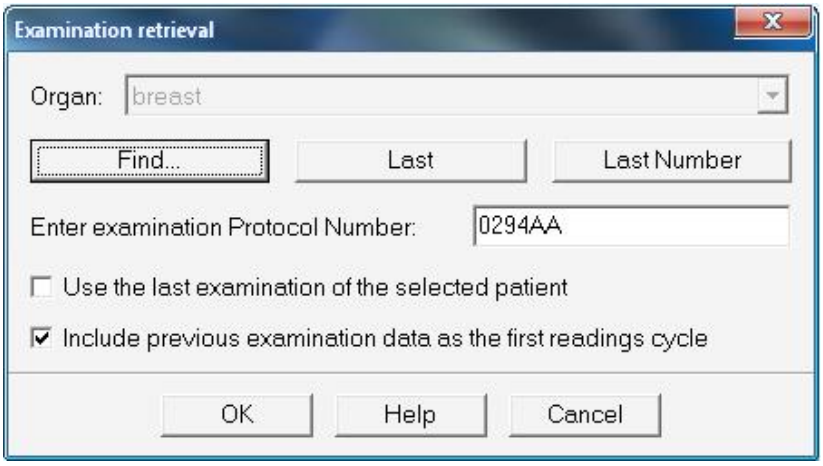


Figure 43. Window of record search

Button **Last** chooses patient with whom the last action in the program has been carried out (primary or repeated examination, scan, editing or print).

Button **Last number** opens examination with the last number - the newest primary examination. Button search opens window of protocol search**.**

Tick is in the **Search last recording for selected patient** window by default. If last examination was carried out by non-typical form (e.g. small circle), you should take account of it, remove tick from window, choose the protocol and comprise present examination with it.

It's necessary to bring the patient data in search window and press the **Search** button to search protocol.

Search by surname

You can write whole patient surname or its first letters - in that case all patients with the same first letters of surname will be found. After that press button **Search.**

*For example: If y*ou write **Iv** in the surname field, you will see patients with surname – **Iv**anov, **Iv**anova, **Iv**ashkina, etc.

Search by number of medical card

You can also use the whole number of medical card or its first figures. After that press the **Search** button.

For example: If you write the number **14** in this field, in that case you will see patients who have medical cards with first figures from 14 to **14**13, **14**44, etc.

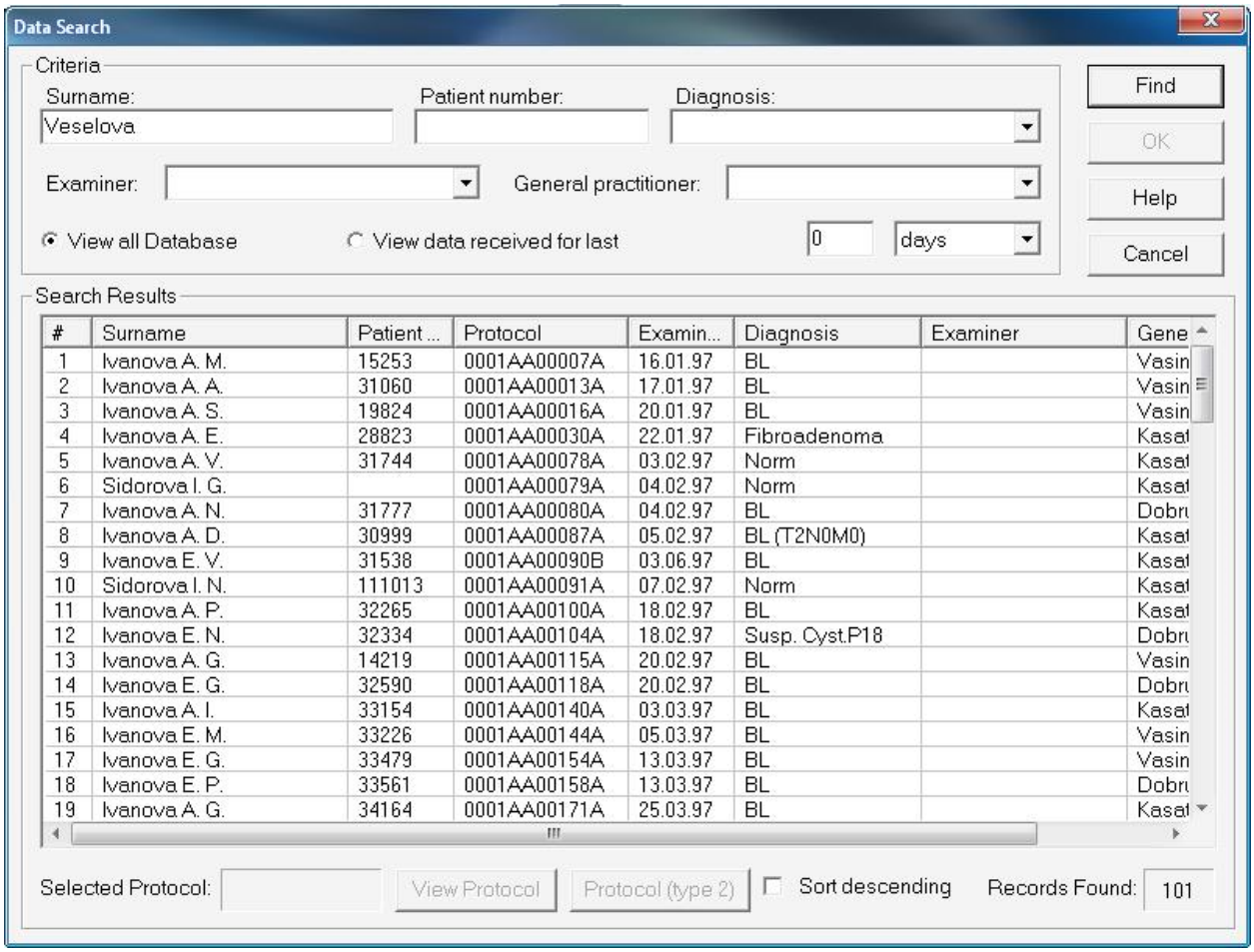

Data Search
Criteria
Surname:
Veselova
Patient number:
Diagnosis:
Examiner:
General practitioner:
View all Database
View data received for last
0
days
Find
OK
Help
Cancel
Search Results
Surname Patient ... Protocol Examin... Diagnosis Examiner Gene
1 Ivanova A. M. 15253 0001AA00007A 16.01.97 BL Vasin
2 Ivanova A. A. 31060 0001AA00013A 17.01.97 BL Vasin
3 Ivanova A. S. 19824 0001AA00016A 20.01.97 BL Vasin
4 Ivanova A. E. 28823 0001AA00030A 22.01.97 Fibroadenoma Kasat
5 Ivanova A. V. 31744 0001AA00078A 03.02.97 Norm Kasat
6 Sidorova I. G. 0001AA00079A 04.02.97 Norm Kasat
7 Ivanova A. N. 31777 0001AA00080A 04.02.97 BL Dobru
8 Ivanova A. D. 30999 0001AA00087A 05.02.97 BL (T2N0M0) Kasat
9 Ivanova E. V. 31538 0001AA00090B 03.06.97 BL Kasat
10 Sidorova I. N. 111013 0001AA00091A 07.02.97 Norm Kasat
11 Ivanova A. P. 32265 0001AA00100A 18.02.97 BL Kasat
12 Ivanova E. N. 32334 0001AA00104A 18.02.97 Susp. Cyst.P18 Dobru
13 Ivanova A. G. 14219 0001AA00115A 20.02.97 BL Vasin
14 Ivanova E. G. 32590 0001AA00118A 20.02.97 BL Dobru
15 Ivanova A. I. 33154 0001AA00140A 03.03.97 BL Kasat
16 Ivanova E. M. 33226 0001AA00144A 05.03.97 BL Vasin
17 Ivanova E. G. 33479 0001AA00154A 13.03.97 BL Vasin
18 Ivanova E. P. 33561 0001AA00158A 13.03.97 BL Dobru
19 Ivanova A. G. 34164 0001AA00171A 25.03.97 BL Kasat
Selected Protocol:
View Protocol
Protocol (type 2)
Sort descending
Records Found:
101

Figure 44. Window of data search

Search by diagnosis

Choose necessary diagnosis for search from drop-down list in **Diagnosis (Диагноз)** field or write the diagnosis manually. Search by diagnosis is the same as **search by surname** and **number of medical card.**

It's possible to make the search by fields of **Doctor who carry out examination** and **Leading doctor**. This search is the same as **search by Surname, number of medical card and Diagnosis**

Search by given time range

It's possible to search patients who were examined in a specific date. For this it's necessary to dot field **Look through data for last** and write the required days, weeks, months and years.

Search of all patients

Press the **Search** button to search all patients when no fields are filled**.** You can see all patients who are recorded in the program database.

Combination of search fields.

It's possible to combine all above types of search.

Operation with results of search

It's necessary to double click on the corresponding protocol by left button of mouse to open the examination or to have the protocol marked by one click of left mouse button and press the **OK** button in the search window.

Operation with examinations

Repeated examination

It's necessary to press the **Repeated examination** button or F6 to begin a repeated examination.
If the preceding measurement data were not recorded, an **Error! Reference source not found** wil be displayed.

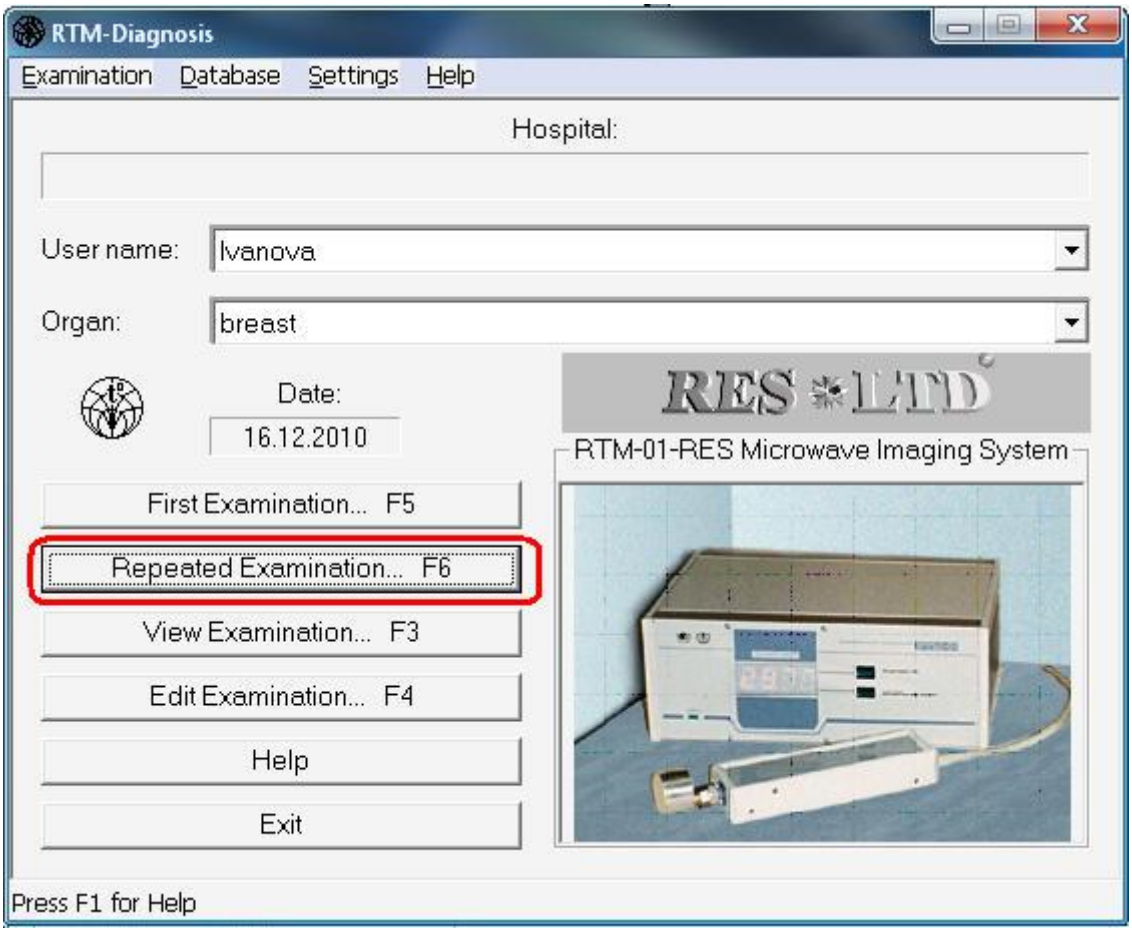


Figure 45. The beginning of repeated examination

The window of recording search is appeared. (see Recording search).

The functions of looking through, editing and removal

Choose **Examination** in the RTM-DIAGNOSTICS program menu to call the work functions with protocols and then press the required line.

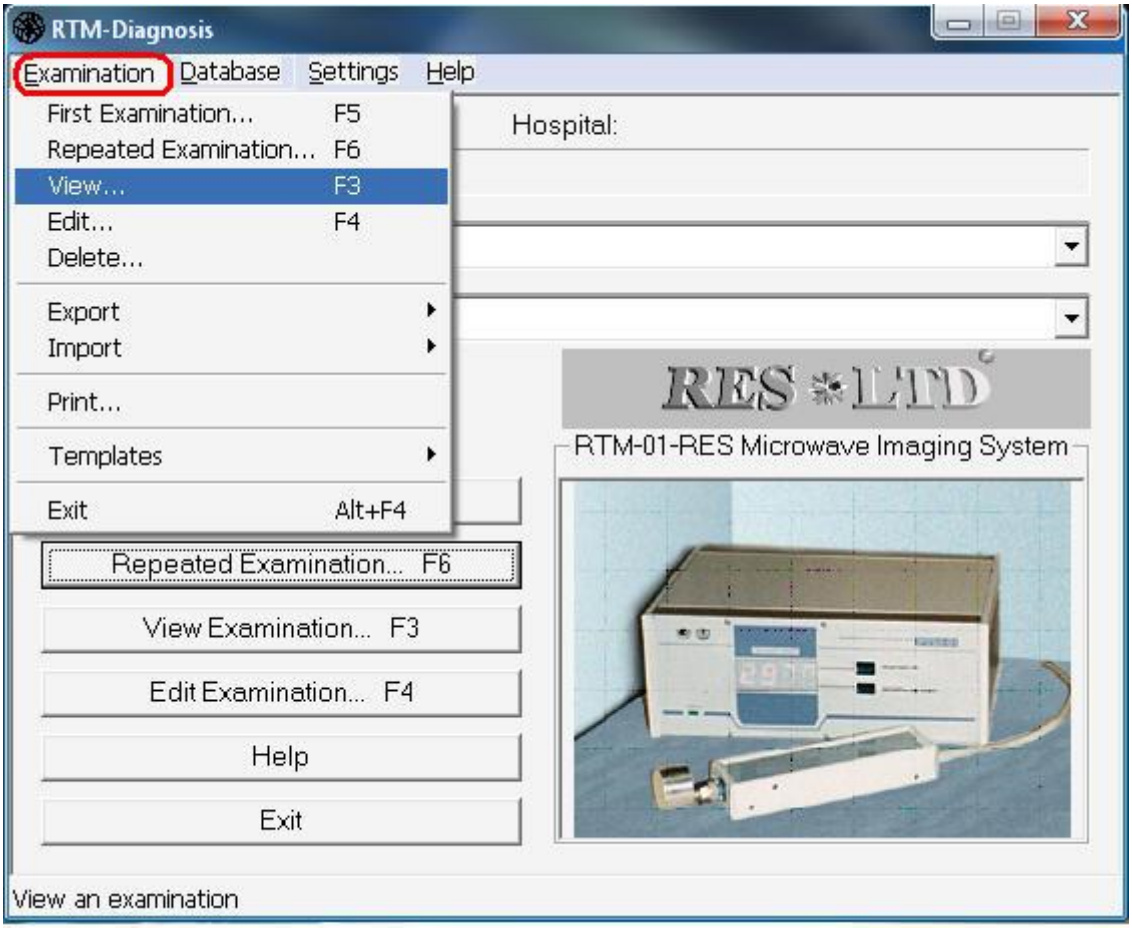


Figure 46. Call of work functions with these examinations

View function allows viewing the examinations data in the database. Choose **Examination** in the menu, and then **View**, or press the **F3** key. It is also possible to press the **View** button in the main window of the program. The window Recording search will appear (see Recording search).

Edit function allows editing examinations data. Choose **Examination** in the menu, and then **Edit**, or press the **F4** key. It is also possible to press the **Edit** button in the main window of the program. The **Data search** window will appear (see Data search).

Function - Delete allows removing examinations data from the database. Choose **Examination** in the menu, and then **Delete**. The **Recording search** window will appear (see Recording search).

Data copying from the protocol in MS Excel

After examination was opened in **General data** window it's possible to copy the examination data for their use in other programs, for example MS Excel. Press the **Copy** button, then it's possible to place them in an MS Excel table by **Insert** command.

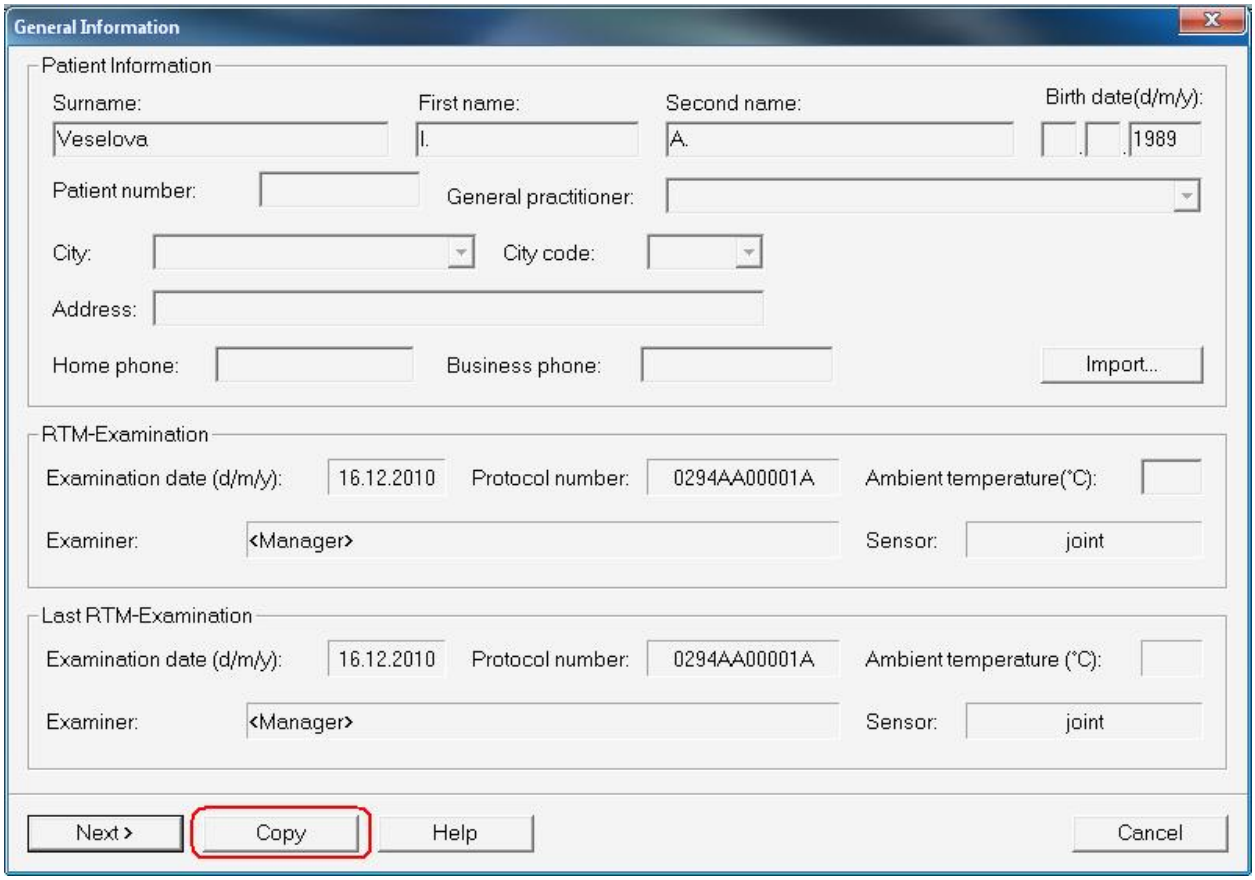


Figure 47. Data copying from the protocol

Work with a database

The database of program represents file XX_db.rtm. First two letters define which body organ relates to this data.

Example: AA-breasts, AB-kidneys, AC- liver etc. Files are in the DB folder in the RTM-DIAGNOSTICS program installation folder. In most cases the database files are located in C:\Program Files\RTM-Diagnosis\DB\.

Creation of a database backup.

It's necessary to complete the following actions to create a reserve database copy:

1. Choose the body organs, whose examination data you intend to back up. (see The Choice of examined body organs)
2. Choose **Database** and then **Creation of a reserve database copy** in menu**.**
3. Choose folder in opened window where you want to save the database file.
4. Press the **Save** button.

A backup of database is created.

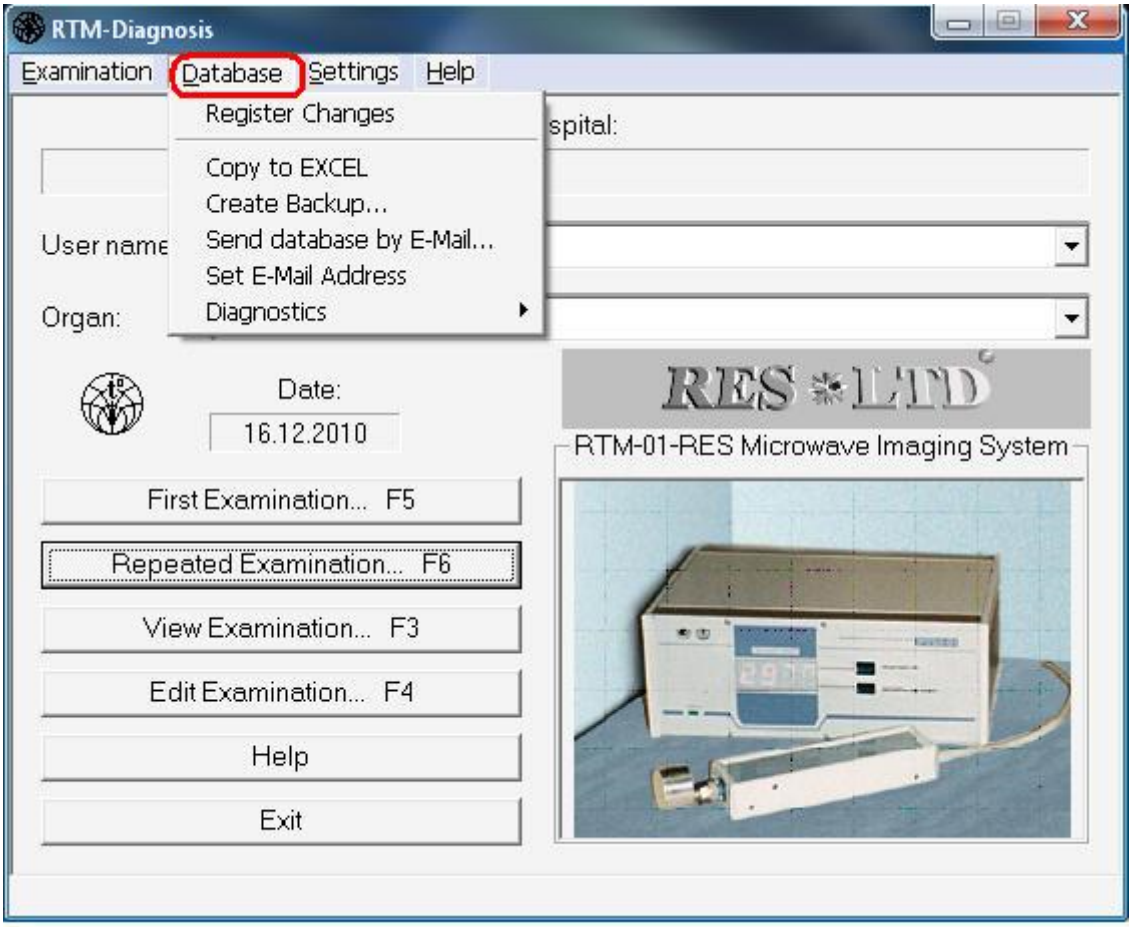


Figure 48. Menu of database

Connection of a saved database.

It's necessary to fulfill following actions to connect an earlier saved database to program.

1. Place the earlier saved database file into the storage folder of databases (Usually **C:\Program Files\ RTM-Diagnosis\DB).** If the names of a current database file and copied file are identical, Windows will request confirmation on replacement of this file.

   Please beware of the fact that if you replace the current file by another file, the data of current file will be lost! If you save the database file under a new name it's necessary to rename the file in a standard database for example file AA_db.rtm and replace current file by this file.

2. Press **Database** and then **Register database changes** in program menu to connect a new file to the program correctly.
3. The database is connected.

Data Export/Import

Figure 49. Data Export/Import

Data Export

If you want to add data from your program to RTM-DIAGNOSTICS you need to use the **Export** function. In this case your data will be added to the old data of other program. It's necessary to fulfill following actions for **Export**.

1. Choose that body organs, whose examination data are required to be exported
2. Press **Examination** and then E**xport** in the menu of main program window **(**Figure 49**).** The search window appears (see. Recording search).
3. When you find the examination data required to be exported, press **OK** or double click by left mouse button on this data. Standard window **Save as** appears**.**
4. Choose folder where you request to save the data.

Advice: It is not recommended to change the filename extension. By default, the file name is the number of the exported protocol, and extension (.rtm) – databases of the RTM-DIAGNOSTICS program. This data can then be added to other RTM-DIAGNOSTICS program by **Import** function

Data Import

If you only want to add examinations which were carried out by RTM-DIAGNOSTICS program elsewhere without replacing a database completely, you will need to use the **Import** function.

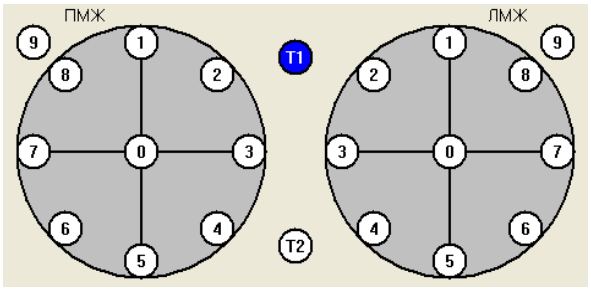
It's necessary to fulfill following actions for **Import:**

1. Press **Examination** and then I**mport** in the main program menu **(**Figure 49**).** Standard **Open** window appears**.**
2. Point out file location and open it by pressing **Open.**

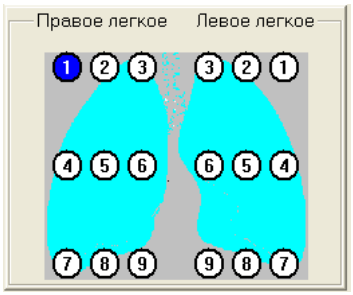
Note: It's not possible to import the protocol with the same number as already exists in a database.

Examination templates

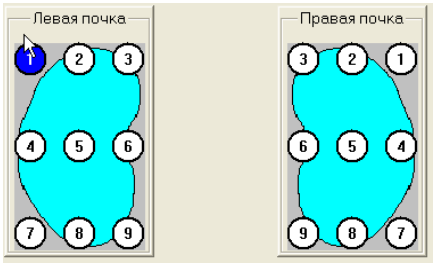
The program is usually delivered with a small set of predefined templates. They allow placing the sensor exactly on points and to correctly carry out the examinations of temperature fields of some body organs: breasts, kidneys, liver, spleen, stomach, lungs, etc.



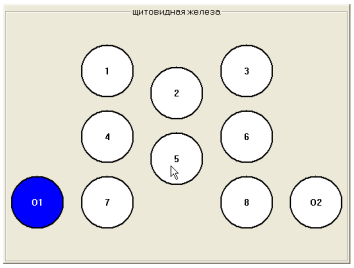
Breasts



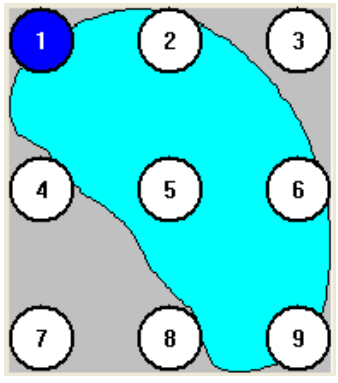
Lungs



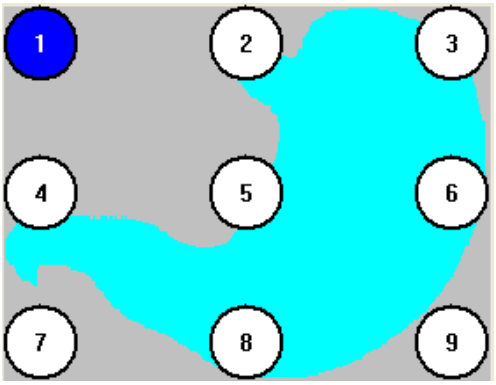
Kidneys



Thyroid gland



Spleen



Stomach

Table 1. Some examination templates of RTM-diagnostics program

Adding a new examination template

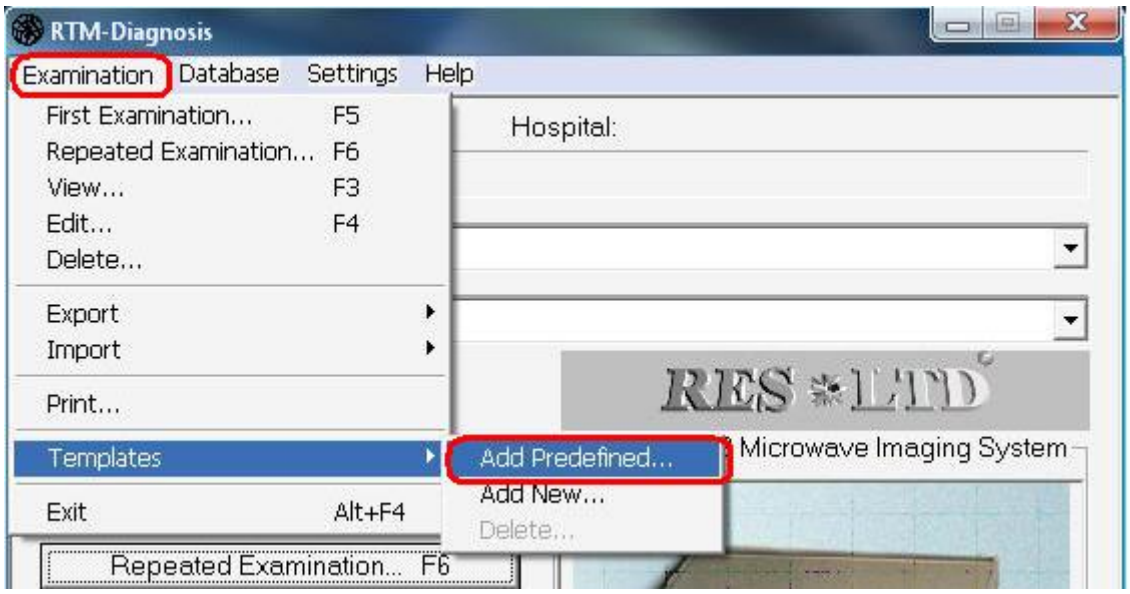


Figure 50. Addition of examination template

It's necessary to complete the following actions to connect a new template:

1. Insert the RTM-DIAGNOSTICS disc.
2. Press **Examination** and then **Examination Templates** and **Add** a new **Examination Template** in the menu of main program window **(**Figure 50). Standard **Open file** window appears**.**
3. Navigate to **SOFTWARE\RTM-Diagnosis\Templets\rus** folder which is on the RTM-DIAGNOSTICS disc.
4. Choose a necessary template and press **Open**. The program automatically connects a template in the list of examined body organs.

Deleting of templates

If any of examination templates is not required anymore, it can be deleted. Press **Examination** and then **Examination Templates** and **Delete template** in the menu of the main program window**.** Then choose corresponding body organs and press **Delete**. You can receive information about the latest examination templates from the manufacturer, RES company Ltd. on http://www.resltd.ru/rus/rtm/software.php website.

Program exit

Press the **Exit** button in main program window**.**

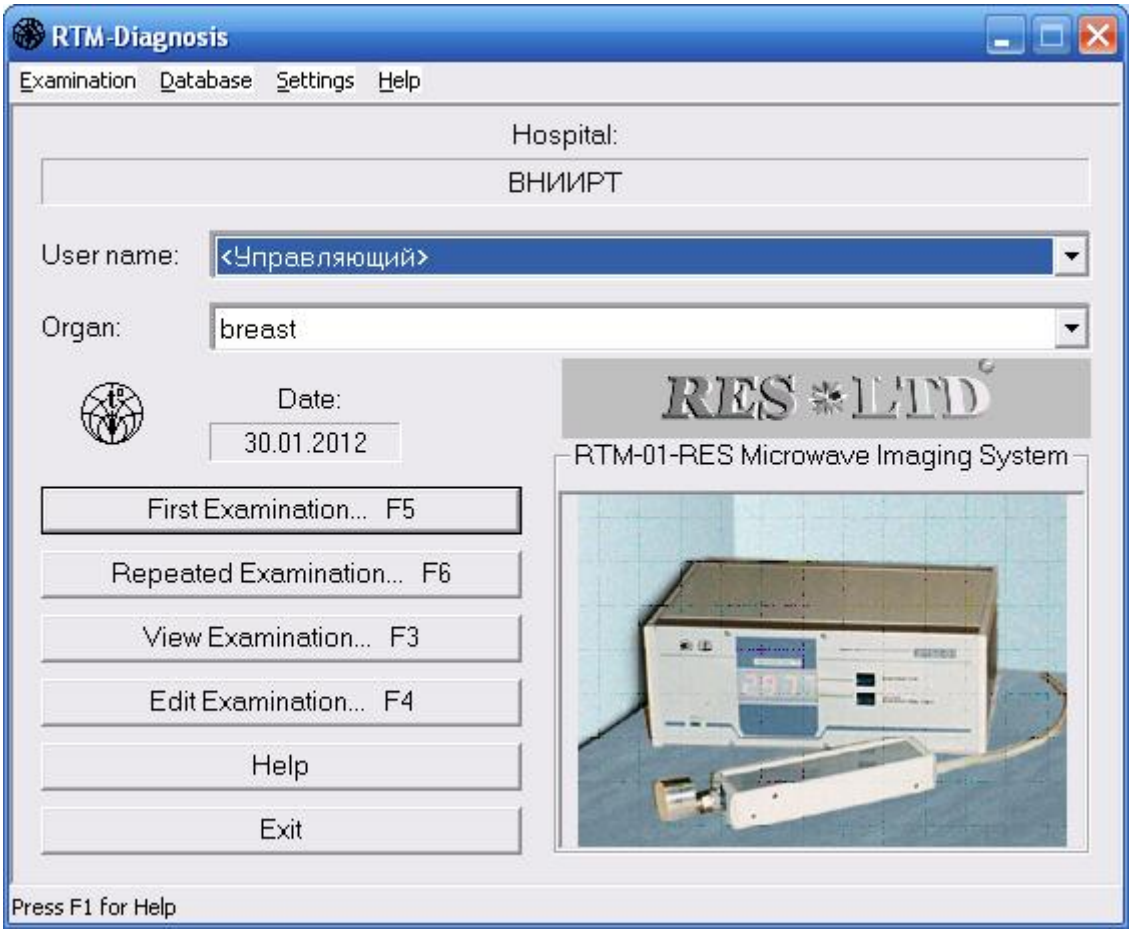


Figure 51. Program exit

Appendix 1 - Adjustment of RTM-01-RES device

Attention! It is not recommended to change any options additionally if our experts already installed your device. Wrong adjustment of the device can lead to data distortion and wrong display of examination results.

Selection of the internal temperature sensor type

Different types of internal temperature sensors can be delivered with RTM-01-RES device. You should necessarily specify the type of internal temperature sensor for correct work of the program. For this purpose choose **Adjustment** and then **Type of the Internal Temperature Sensor** in the menu of main program window.

There are four types of internal temperature sensor for choice in the program version 1.71:

1. Usual
2. High-frequency
3. High-frequency noise-immune
4. Combined

It's necessary to specify the type of your internal temperature sensor by the supplier or in the description of the device set before device installation.

Selection of device interface

RTM-01-RES device can be connected to a computer through the LPT and COM ports. Press **Adjustment** and then **Device interface** in the menu of main program window to choose the connection interface.

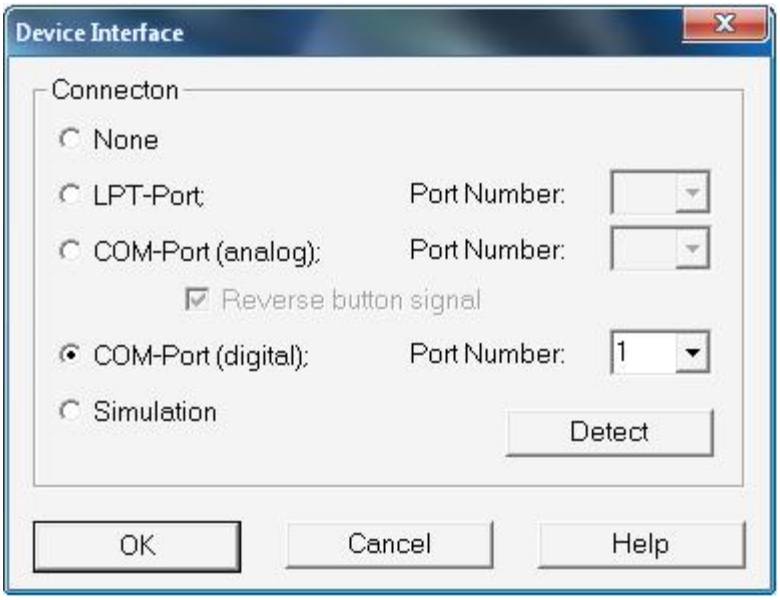


Figure 52. Selection of connection interface

Delivered devices recently use the expanded COM interface. Our specialists usually connect the device through the COM 1 port. If you use the program without RTM-01-RES device the **Without connection** or **Imitation** mode should be switched on.

Range of admissible temperature values

The program has a filtration of obviously incorrect data. If the measured temperature exceeds the limits (25°C - 42°C) during the examination, the message **Illegal temperature value** appears.

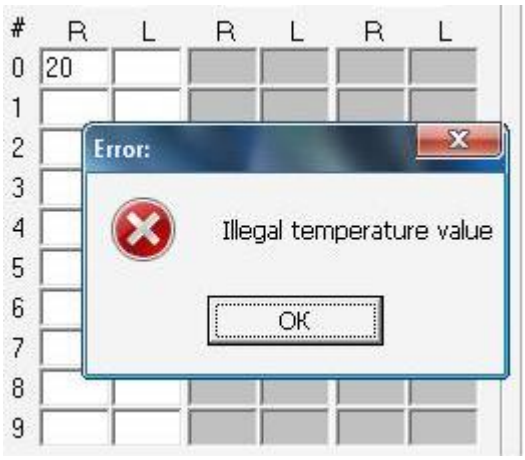


Figure 53. Illegal temperature value

The program will demand to remeasure this point. This option allows delimiting admissible temperatures by user request. (For example, it is required to measure temperatures much lower than 25°C when you examine frostbites). It's possible to return to factory options (25 … 42°C) pressing the **Tolerant Temperature Range** button.

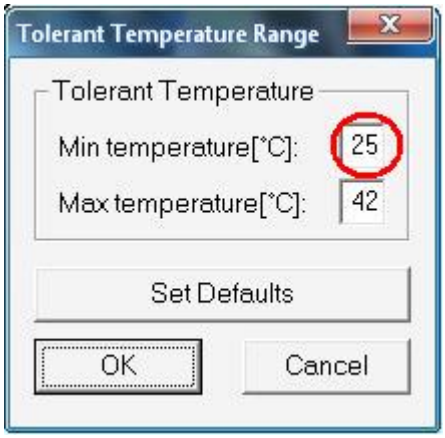


Figure 54. Range installation of admissible value

Range of temperature values on thermograms

Fixed scale of temperatures is applied when constructing the thermogram (as against temperatures fields). Such approach allows the doctor to estimate a situation at one sight. The temperature scale is selected proceeding on the assumption of breast temperatures. When you examine other body organs of patient it's possible that the measured temperatures for most patients occupy a small part from the temperature scale, or the temperature oversteps the limits of displayed area for some patients. This option helps correcting a similar situation. It is possible to establish a temperature range separately for skin and internal temperature sensor, individually for each body organ (see EXAMINED BODY ORGAN of the main program menu).

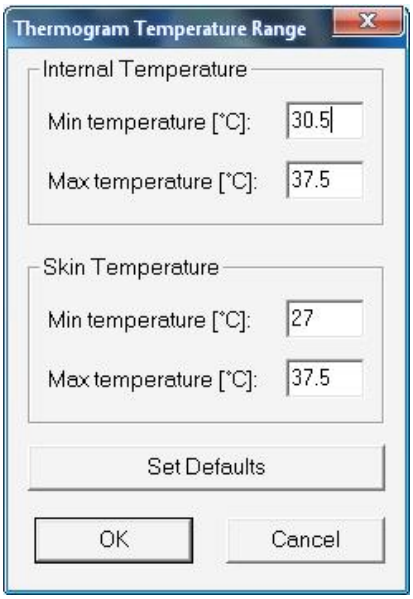


Figure 55. Values installation of temperature range on thermograms

DISPOSAL OF PACKAGING - packaging components (cardboard, plastics etc.) are all classified as solid waste and can be therefore easily disposed of with the use of recycling processes.

Before disposal is always advisable that you check the validity of the relevant provisions in the place of installation.

PLEASE MAKE proper disposal!

PRODUCT DISPOSAL – RTM-01-RES software medium is made of various materials. Most of them (plastic, paper etc.) may be handed over in recycling sites and can be recycled.

Before disposal is always advisable that you check the validity of the relevant provisions of the disposal site.

PLEASE MAKE proper disposal!

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